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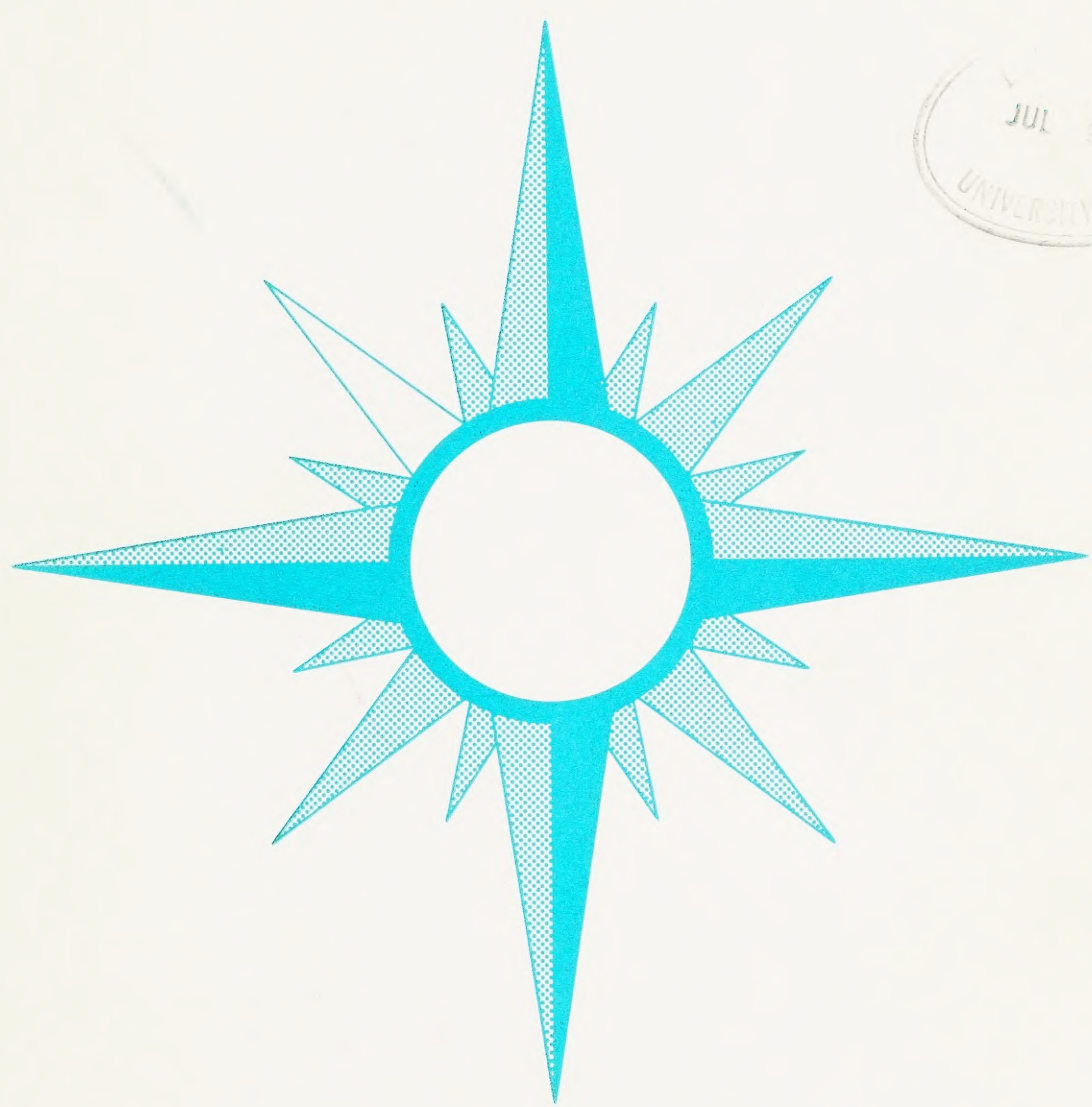
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A Reference Paper for the Advisory Commission on the
Development of Government in the Northwest Territories

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THE NORTHWEST TERRITORIES TODAY

A Reference Paper for the Advisory Commission on the
Development of Government in the Northwest Territories



Issued under the authority of
HONOURABLE ARTHUR LAING, P.C., M.P., B.S.A.,
Minister of Northern Affairs and National Resources

Ottawa 1965

THE NORTH WEST TERRITORIES
A REPORT FROM THE NORTH WEST TERRITORIES COMMISSION
1968

ROGER DUHAMEL, F.R.S.C.
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OTTAWA, 1968

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FOREWORD

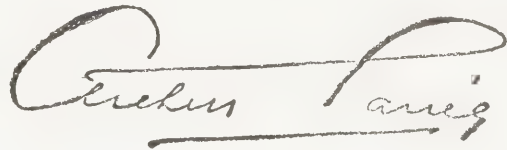
The appointment of the Advisory Commission on the Development of Government in the Northwest Territories is of major importance to the people of the Northwest Territories and to the people of Canada. Forms of territorial government have been evolving slowly over the years but the past ten years have brought rapid growth and changes in the Territories, in governmental services and administration. It is timely to review this growth and to search out the best pattern for government to meet the present situation and to provide for the years of expansion that lie ahead.

Future changes will be designed to point to as efficient an organization of government as possible with increasing devolution of authority to territorial and municipal levels of government as increased responsibilities in all fields are assumed by these levels of government. At the same time present policies, programs and services are being closely reviewed to ensure that the means of achieving Canada's objectives in the North are being made available. In seeking the advice of an independent Commission, the Federal Government is taking another step to define Canada's northern objectives with greater precision in the light of changing circumstances and to

provide the impetus and the resources to achieve these goals.

The purpose of this reference paper is primarily to provide the Advisory Commission on the Development of Government in the Northwest Territories with a brief, up-to-date survey of background information which it will need in the performance of its task. It is also expected to assist people in the Territories who will be making representations to the Advisory Commission and to inform the people of Canada of the more important known facts about the resources of their vast northern heritage, tell them something of the people who live in the North, and give an indication of some of the more difficult problems which must be overcome.

From the work of the Commission will come recommendations for changes in the responsibilities and the relationship of the Federal and Territorial Governments. These recommendations, combined with the results of the detailed examination of policies now under way and the public debate which is expected both in the Territories and Canada as a whole, will be followed by the publication of a White Paper on Canadian Policy in the Northwest Territories.

A handwritten signature in dark ink, reading "Arthur Laing". The signature is fluid and cursive, with a horizontal line drawn underneath the name.

The Honourable Arthur Laing, P.C., M.P., B.S.A.,
Minister of Northern Affairs
and National Resources.

PART I

INTRODUCTION

The name "Northwest Territories" has identified the receding Canadian frontier for almost a century. The southern regions of the original Northwest Territories have long since grown into thriving provinces and today the frontier begins at the 60th parallel. The settlement of the frontier was accompanied by the growth of wider political responsibility among its residents. This process has been common to southern parts of the country at an earlier stage of their development, varying only in the time and manner of its accomplishment.

The Canadian frontier today is no longer an area of rich prairie land easily penetrated by railways and capable of being transformed by hard work into productive farms. It is now the "North", a land of harsh climate, vast distances and expensive transportation, which occupies about one third of Canada's land mass with less than one in eight hundred of the population. The resources hidden below its surface are largely unknown although indications are that they are substantial.

The Northwest Territories has assumed greater importance in recent years as mineral development, the continental defence system and air transportation have brought it fully into the national consciousness. Despite the fact that most Canadians live far from the 60th parallel and relatively few have visited the Territories, it is now looked upon as an important contributor to our Canadian identity and sense of purpose.

Undoubtedly it is the challenge of the future development of the Northwest Territories that has the greatest call upon attention and interest today. The possibility of great mining, oil and gas development in an era of increasing consumption, excites the imagination. Al-

though the development of the material assets of the Northwest Territories holds the public imagination in southern Canada, northern residents are equally interested in its political growth. There is a strong body of opinion that it is time for further progress toward self-government. As with the 'old' Northwest Territories in the late 19th century, the questions of how and when further development should take place have once more to be considered. To understand the problem, it is necessary to review the physical and human resources of the Northwest Territories as well as to look at the economic, social and political aspects.

THE LAND

Land Forms

The Territories are immense in size, a land of great variety and often bizarre contrasts, of mountains and plains, innumerable lakes and semi-deserts, vast expanses of spongy muskeg and stark outcroppings of ancient rock. The tip of northern Ellesmere Island is 2,200 miles distant from southern James Bay; the Mackenzie Delta lies 2,100 miles west of southeastern Baffin Island. The land area of 1,253,000 square miles is greater than the combined areas of the Atlantic Provinces, Quebec, Ontario and Manitoba. The waters of Hudson and James Bay, Hudson Strait, Foxe Basin and other coastal waters add an area more than twice the size of Manitoba.

The mainland of the Territories consists of two major geological regions, the Precambrian, or Canadian Shield and the Interior Plains. The mountainous Cordilleran region forms the great divide between the Territories and the Yukon (Figure 1).

Physiographic Regions

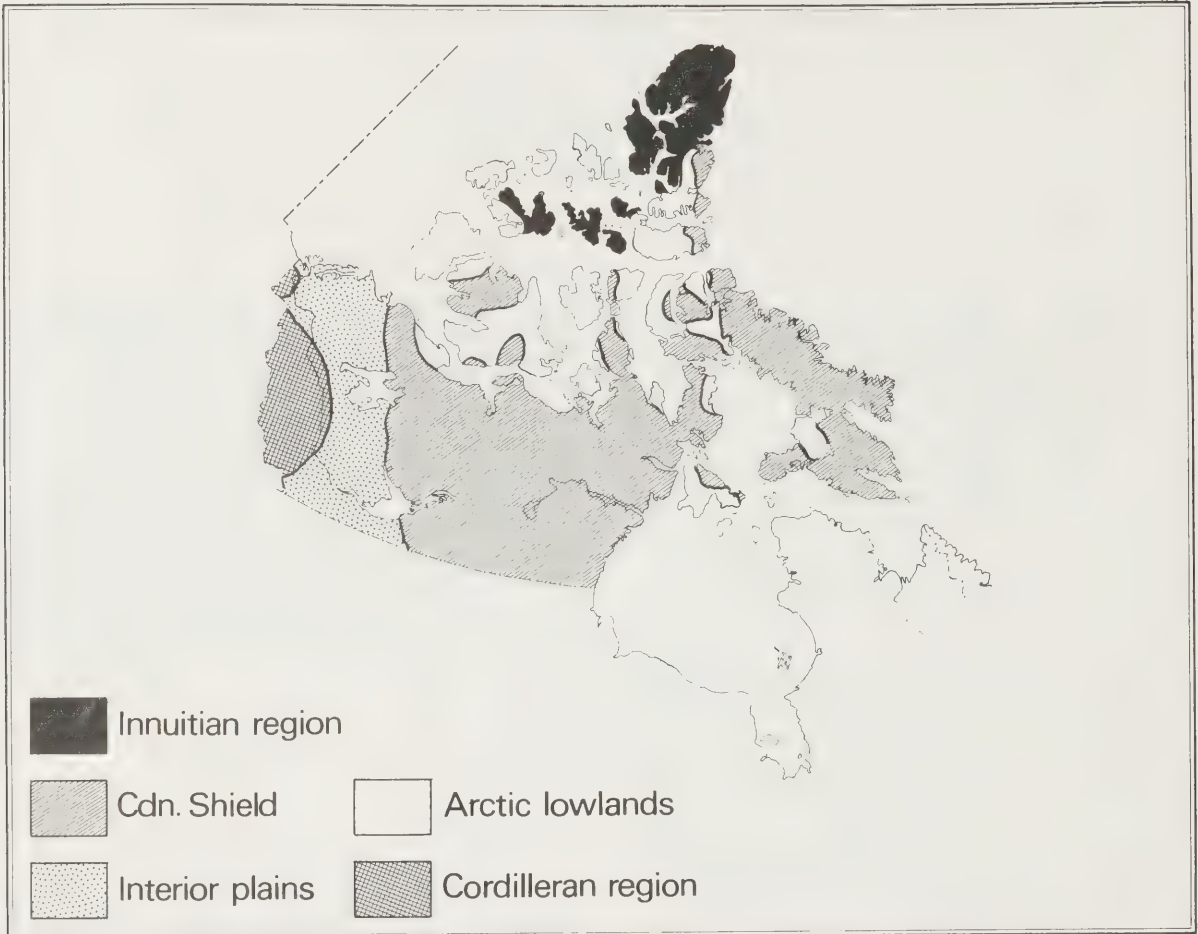


FIGURE 1

The Precambrian Shield, consisting of 700,000 square miles of bedrock, mostly granite, extends from Great Slave Lake in the west to Baffin Island in the east. Except for the rugged mountains of the eastern islands, the Shield country rarely rises more than a few hundred feet (Figure 2). Nevertheless, it presents a rugged and barren landscape characterized by rolling hills and valleys. In places the valleys are water-filled producing striking finger-like lakes. The western edge of the Shield borders the eastern shores of Great Bear and Great Slave Lakes, the largest lakes in Canada. Major rivers of the Shield are the Thelon, Kazan, Dubawnt and the

Back. With the exception of the Thelon, these rivers have falls, cataracts and innumerable shallow rapids which impede navigation.

The Interior Plains lie between the Shield and the Cordilleran region of the western mountains, and are a continuation of the Great Plains stretching from the Gulf of Mexico to the Arctic Ocean. Within the Territories they are dominated by the Mackenzie River. In contrast to the rivers of the Shield, the Mackenzie is navigable for the whole of its 1,400 mile course. It reaches the sea through an impressive maze of channels which wind through a delta spreading over several hundred square miles.

Geographic Relief

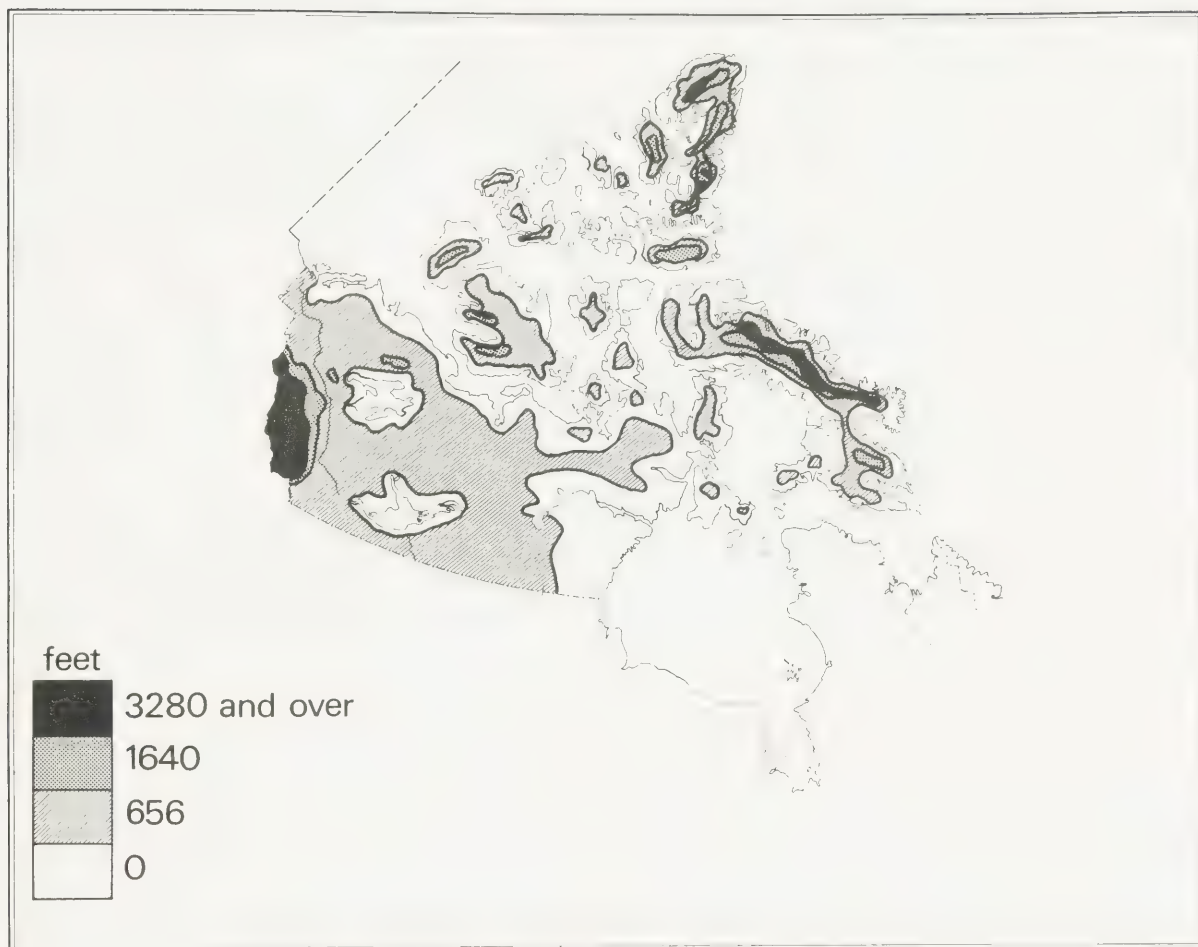


FIGURE 2

The variety and contrast of the Arctic Islands is great and often starkly picturesque. In the east, the ancient Precambrian rocks form a spine of mountains from Baffin to Ellesmere Island which rise to heights of 10,000 feet with spectacular vertical cliffs and deep fiords along their eastern coasts. At high altitudes, permanent ice-fields or glaciers persist. To the west are the Arctic Lowlands, made up of recent limestones, sandstones,

shale and gravel. North and northwest of these lowlands lies the Sverdrup Basin, an area of higher relief formed by drastic alteration of the sedimentary rocks. Finally, at the extreme northwest and fronting the polar basin, is a thin shelf of sedimentary rocks that makes up the Arctic Coastal Plain. This polar shelf extends up to 50 miles into the Arctic Ocean before dropping off into the deep waters of the polar basin.

Climatic Regions

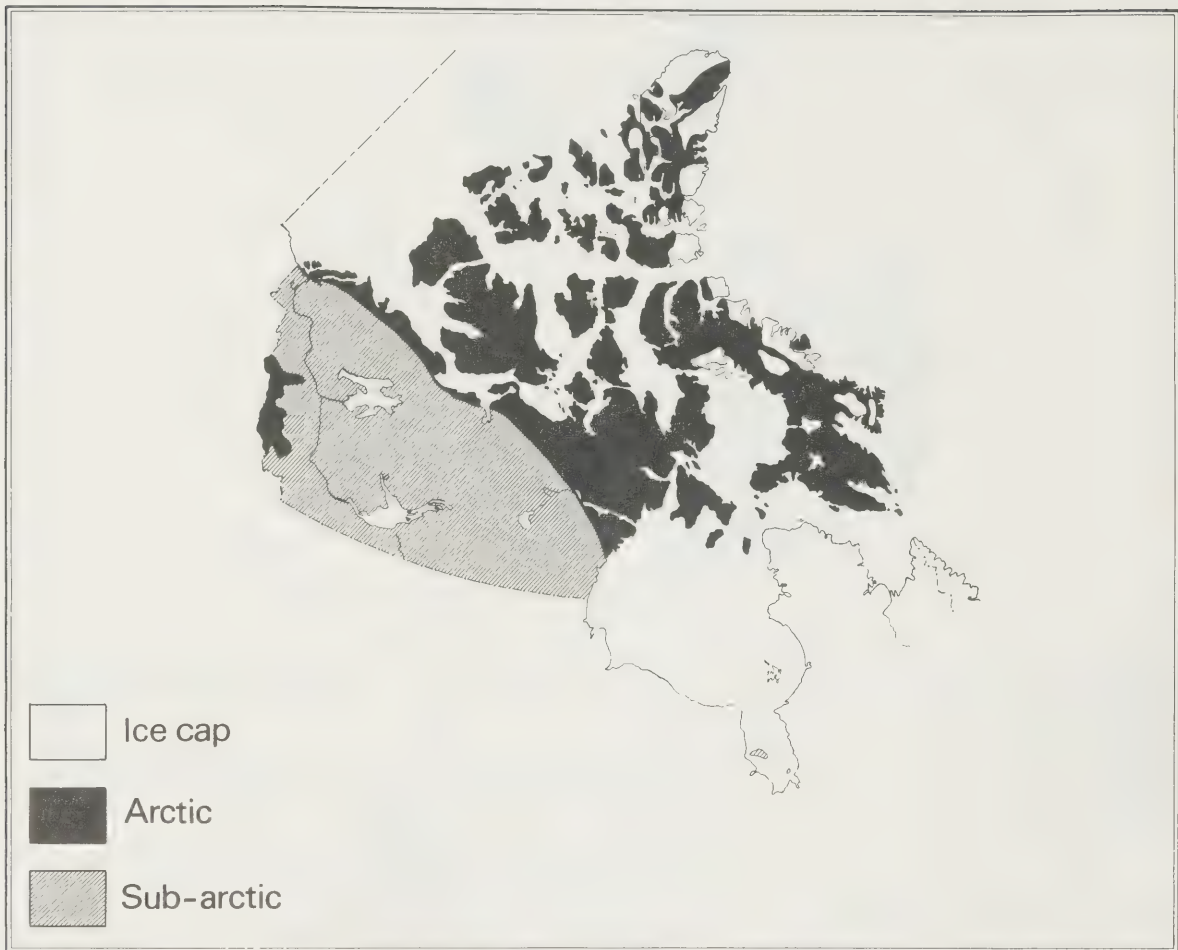


FIGURE 3

The lands of the Territories, particularly the Arctic, were greatly altered by glaciation. Exceptions include isolated high mountain peaks of the eastern Arctic and the islands of the extreme northwest. The glaciers retreated from the central mainland only 10,000 years ago. Relieved of its tremendous burden of ice, the land has been rising slowly ever since. The former beachlines that now lie in terrace-like ridges, often scores of feet above present sea level, mark this change.

The advancing and retreating glaciers sculptured and shaped the face of the land. In regions of the Shield they scraped, smoothed and exposed the bare bedrock. In places they formed series of low, elongated parallel hills called moraines. In other areas the granite or sedimentary bedrock was covered with boulders, sand, and silts which cover the surface in sheets or isolated heaps. The streams of glacial melt water washed out and deposited sand in the form of long, low hills

or eskers that resemble serpentine railway embankments running for miles across the country. In the low-lying areas humus soil is slowly accumulating from the decomposition of lichens, mosses and low vegetation.

Geologically, the arctic regions have just emerged from the last glacial period and in a sense are still in the grip of a "little ice age". The ice-fields and glaciers of the eastern Arctic cover 60,000 square miles. In addition, the arctic seas and straits are ice-filled for a large part of the year.

Climate

Although several climatic regions may be identified within the Territories, the climate falls roughly into two major divisions, the Arctic and sub-Arctic. The location of the tree-line is commonly used to define the arctic boundary (Figure 3). North of this line, the growing season is too short and too cold to permit tree growth. For more than half of the year the Territories experience severe and persistent cold. The freezing season starts in September over the High Arctic, advances southward following progressively colder air outbreaks, and reaches the southern limits of the sub-Arctic in late October. The turbulent flow of cold air as it spreads across the relatively warmer open seas and channels produces the stormiest period of the year and accounts for a large portion of the winter's snowfall. By December, with most of the moisture sources sealed off by ice, the cold atmosphere contains so little moisture that the few disturbances produce only thin cloud layers and consequently snowfall is very light. Average annual snowfall in the Arctic is less than 30 inches. Sub-Arctic areas receive about 50 inches of snow.

Temperatures seldom rise above the freezing point from December through February in the sub-Arctic and from November through April in the Arctic. The severity of the winter climate is shown in Figure 4. Blowing snow and the chilling effect of strong winds present the major hazards to winter travel throughout the treeless Arctic although the frequency and severity of blizzard conditions vary widely over the region (Figure 5). The region with most frequent blizzards is not the High Arctic but the barren lands to the west of Hudson Bay where strong winds are common.

Following the return of the sun to arctic skies in February the days lengthen rapidly. Temperatures climb upward in March but temperatures above freezing are not reached until May in the sub-Arctic and June in the Arctic. In the Mackenzie Valley the winter snow disappears in May, but in the Arctic not until June. Summer is short but pleasantly sunny and warm in the sub-Arctic. During June, July and August, mean daily temperatures range from 55 degrees to 70 degrees F. Summer in the eastern Arctic is of shorter duration and cooler because of the influence of the cold waters of Hudson Bay and the surrounding seas and channels. Mean daily temperatures are uniform throughout the entire region at about 40 degrees to 45 degrees F (Figure 6). Average annual rainfall is two to five inches in the Arctic and six to eight inches in the sub-Arctic.

Spring break-up is well advanced in Hudson Bay in July, but is delayed three or four weeks among the lower islands, and often does not occur at all in the High Arctic.

In the Arctic temperatures drop below freezing during every month (Figure 7). In the Mackenzie Valley the frost-free period averages from 50 to 60 days. Nearer the large lakes it is generally 20 to 30 days longer.

Vegetation

The main life zones in the Arctic and sub-Arctic Northwest Territories are the barren lands and the coniferous forest. The plants and animals inhabiting these zones have evolved special adaptations to life in an environment which for much of the year is covered with snow and ice. The greatest difference between the zones is the absence of trees on the tundra.

Fertile soils are scarce in the Territories and the growing season is short. As might be expected in such an immense land there are enormous changes in the vegetation from the southern border to the Arctic Islands (Figure 8).

The comparatively warm waters of the Mackenzie River stimulate the growth of vegetation along its course. West of the Mackenzie River, the Mackenzie Mountains form a wide band that extends to the Yukon border and

6



Frequency of Blowing Snow (Visibility 6 miles or less) at Arctic and Sub-Arctic Locations

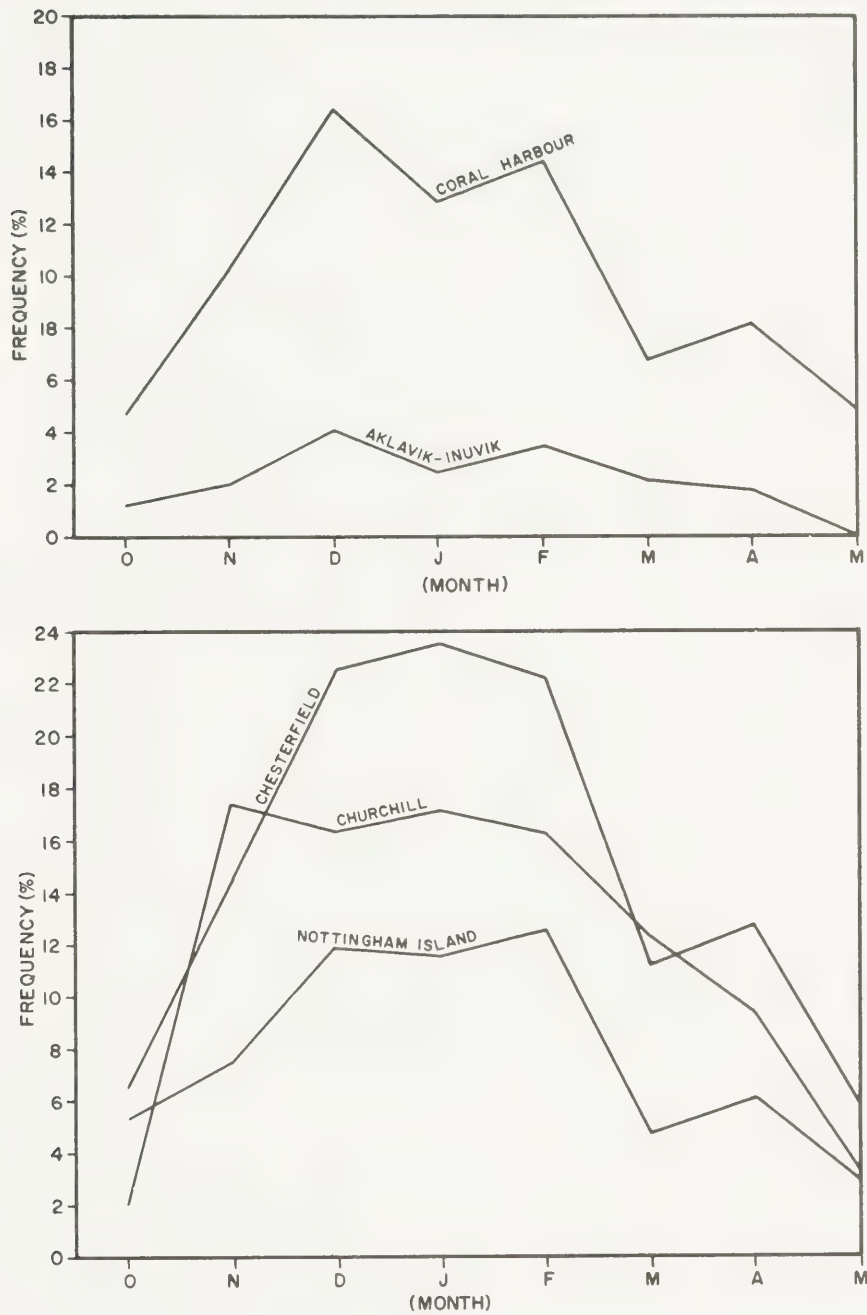
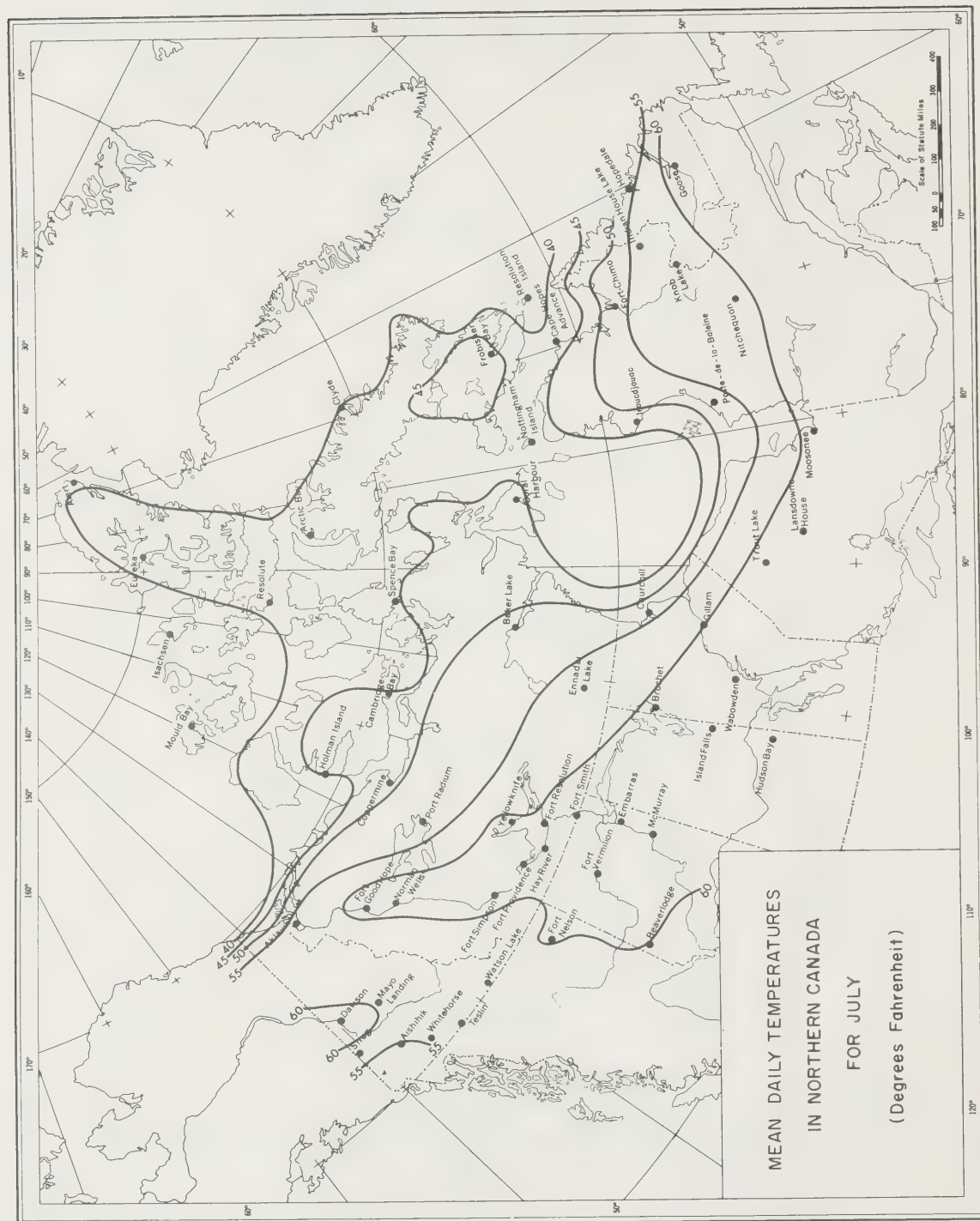


FIGURE 5



Mean Monthly Temperatures for Stations in the Northwest Territories

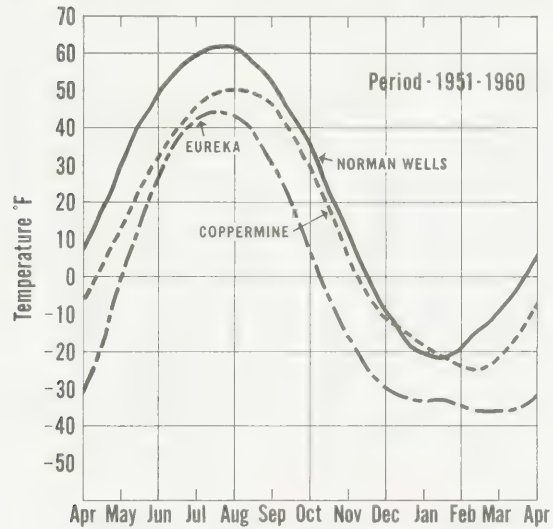


FIGURE 7

Natural Vegetation

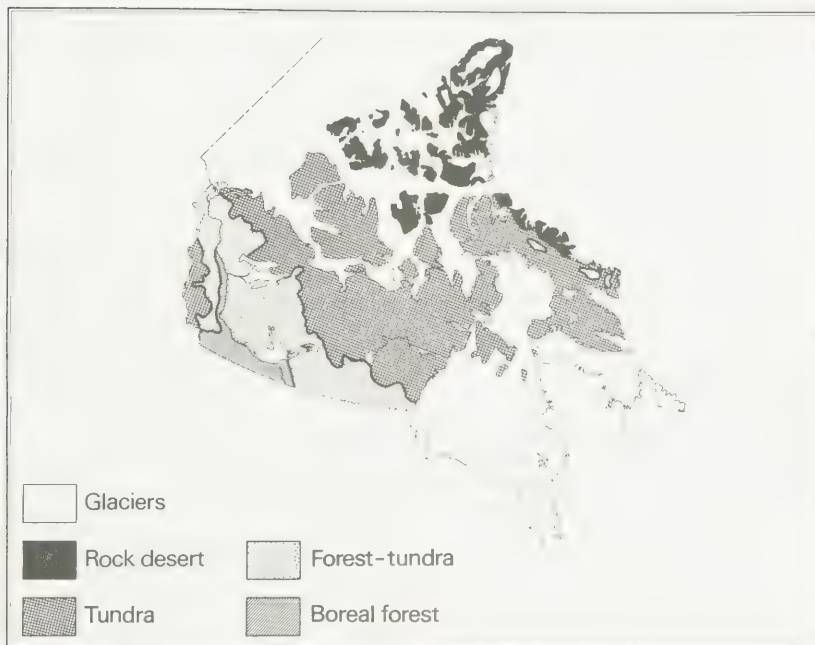


FIGURE 8

beyond. The vegetation of this mountainous region varies with altitude, latitude and shelter. The lower slopes are forested with spruce and poplar, while alpine flora similar to that of the tundra is found above the tree-line.

The southwestern section of the Mackenzie Valley is mainly forested. Jack pine is predominant on sandy soils while white spruce forms dense stands on well drained land. Black spruce and larch dominate the poorly drained muskeg terrain. In this region there are prairie-like patches of grassland north of Fort Smith which extend as far as Fort Simpson.

North and east of Great Slave Lake the density of trees decreases and they become stunted in growth. The tree-line is an indefinite line beyond which no more trees are found. The main factors influencing the location of the tree-line are temperature, rainfall and wind. Large tracts of treeless terrain are found south of the northernmost trees and in turn, tree cover extends northward into the tundra region on protected slopes and along rivers and streams. There is some white spruce but this region of poorly drained muskeg is characterized by black spruce, larch and sphagnum. A shrubby growth of birch and alder is usually present.

North and east of the tree-line there is a vast expanse of treeless tundra. A shrubby zone extends into this region on protected slopes and in the valleys of rivers and streams. Farther east sedge-grass turf predominates and the sphagnum bogs become quite rare.

In the far north there is a veritable desert, particularly in the northwestern part of the Arctic Islands. There is relatively little rainfall; summer temperatures are low and winds are continual. Here, plants grow only in the most favourable locations. Like the change from forested land to tundra, the line between the tundra vegetation and the arctic desert is not clearly defined. It is a gradual progression which depends on the rigours of climate and the availability of soil.

Animal Life

The number and variety of animals found in the tundra and forest life zones depend upon the diversity and complexity of the habitat. The number of species of animals diminishes with

the decreasing variety and richness of plant life from the southern edge of the spruce forest to the barren region near the Pole. Another factor limiting the variety of species is that the North has emerged only recently from a period of extensive glaciation.

The most conspicuous forms of animal life in the tundra are the mammals and birds. Caribou, muskox, barren-ground grizzly, arctic wolf, arctic fox, and lemming are the most common mammals. The tundra is noted for its abundance and variety of bird life, but most of the birds remain only for the brief summer season. These migrants include countless shorebirds, waterfowl, seabirds, and ground-nesting snowbirds, longspurs and sparrows. The raven, snowy owl and rock ptarmigan remain throughout the year.

Insects include a large variety of flies, of which the best known are black flies, mosquitoes and midges. Bumble bees and butterflies flit busily during the brief but spectacular blooming period of the ground flowers.

Because of the greater diversity of plant types, the forest zone supports a larger variety of fauna than the tundra. Moose, woodland caribou, furbearers such as beaver, mink, marten, muskrat, red fox, lynx, timber wolf, black bear and numerous rodents are all found here. Most of the birds are migratory. Common birds are crossbills, grosbeaks, woodpeckers, chickadees and nuthatches. There are also scavengers and predators such as ravens, jays, hawks and owls.

The polar seas, ice-bound for nearly 10 months of the year, support a rich marine fauna. The basic food organisms are plankton, shrimp, and small fishes such as capelin and sculpins. The larger fish of commercial value include cod, herring, salmon and char. Marine mammals include the seals, walrus, narwhal, white and bowhead whales. Numerous seabirds nest in colonies on the rocky islands and headlands.

During the long period when the polar seas are ice-bound most seabirds and marine mammals migrate to warmer open water or remain in the few straits that stay open during the winter. Only the ringed and bearded seals and their arch enemy the polar bear, and the occasional scavenging arctic fox, inhabit the ice-fields during the long, dark winter months. A

few hardy seabirds, the guillemot, dovekie and king eider linger at the southern limits of the ice pack.

The freshwater fauna of the Territories are limited in variety and numbers because the cold northern waters provide little food. Although 50 per cent of the surface area of the Territories is permanently covered by water, many of the shallow lakes and ponds freeze to their entire depth and have no large fresh water vertebrates.

THE PEOPLE

Before the white man arrived in the Northwest Territories the Indians and Eskimos had evolved successful cultures of seasonal nomadism based on hunting and fishing. Mammals, birds and fish provided food, clothing, light, heat, implements and even weapons for the hunt. That state of existence prevailed, more or less unaltered, for four to five thousand years with the Eskimos inhabiting the arctic coastal areas and treeless tundra and the Indians the sub-arctic spruce forests.

There were several tribes of Indians chiefly of the Athapaskan linguistic stock. In the east, the Chipewyans ranged from Hudson Bay to Lake Athabasca; to the northwest there were the Yellowknives, the Dogribs, the Hare and the Bear Lake Indians. The Slaves and Loucheaux occupied the Mackenzie River Valley. These tribes consisted of bands of varying size under the leadership of one strong man or chief. They roamed in small bands, often camping for several weeks or even months at a fishing area or caribou crossing. The Athapaskan tribes made frequent trips into the tundra during the summer and fall to hunt caribou and muskoxen, going as far as the arctic coast in the vicinity of Coronation Gulf.

The Eskimos, with the exception of a group in the interior of Keewatin, had developed a primarily coastal culture. They were divided into small family groups and moved with the game resources of their region. Usually, they hunted in the coastal areas but in summer they made special hunts inland for caribou and muskoxen. They also made occasional trips to the vicinity of the tree-line to cut wood for sledge runners, tools and implements.

Although their hunting areas were adjacent and their way of life similar, the Indians and Eskimos remained apart and seldom met except in strife. There was little or no cultural exchange and no intermarriage between the two races.

The European explorers of the 16th, 17th, and 18th centuries were the first white men to contact the Indians and the Eskimos. Although encounters between explorers and northern natives were numerous during that period they did not result in much change in the traditional native way of life. The explorers were followed by the whalers and the fur traders and they, in turn, by the missionaries, Royal Canadian Mounted Police, and northern pioneers. Small settlements grew up around the trading posts and missions along the main waterways and introduced a new way of life to the North.

It was the fur trade that had the greatest impact on the northern peoples. The Indians and Eskimos were encouraged to trap fur bearers which previously had little use and as a result they spent less time at their traditional hunting pursuits. The rifle enabled them to kill game more efficiently but larger dog teams were necessary for winter travel on their new traplines. These developments made excessive demands on the game resources over wide areas.

At the same time the isolated trading posts gradually became permanent settlements as Indian or Eskimo families settled near the source of trade goods and were attracted by the white man's activities. Many of the settlements became centres of transportation and jumping-off spots to the interior for trappers, prospectors and government research parties.

By 1900 there were 13 settlements in the Mackenzie Valley connected by water transportation; in the eastern Arctic there were only a few isolated trading posts. When the present boundaries of the Northwest Territories were set in 1912 the population was over 6,000 persons of which all but a small proportion were Indians and Eskimos.

In the following fifty years there was a steady increase in the population of the Territories, as reflected in the decennial censuses

of Canada (Table 1). The growth in the Indian and Eskimo populations during that period resulted from a fairly rapid rate of natural increase, while the growth in the white population of the Territories was due mainly to immigration. People moved north in response to various resource developments and government programs. The number of whites in the Territories was less than 1,000 in 1921, but had more than doubled by 1941. The fur resources and the discovery of oil at Norman Wells attracted an influx of whites in the 1920's. Discovery of gold at Yellowknife and pitchblende at Great Bear Lake in the 1930's brought increasing numbers to the Mackenzie District and led to the establishment of federal government administrative centres. In the 1940's activities connected with the war, the Canol pipeline, airfield construction, and uranium mining at Great Bear Lake, spurred additional immigration. In the decade preceding the 1961 Census the total territorial population increased by 43 per cent, the white population alone by 83 per cent. This impressive growth in the white portion resulted from greatly

expanded government activities in the North, mainly defence and social programs, and extensive construction and road building.

TABLE 1
Population of the Northwest Territories Census of Canada 1911 to 1961

Year	1911	1921	1931	1941	1951	1961
Population	6,507	7,988	9,723	12,028	16,004	22,998

Source: Dominion Bureau of Statistics.

The 1961 Census of Canada gave the population of the Northwest Territories as 22,998. The composition of the population by major ethnic groups is shown in Figure 9. Although the "white" group includes Metis, enfranchised Indians and people of other ethnic origin, it is composed primarily of people of European descent who made up 91 per cent of the group and 39 per cent of the total population of the Territories at that time.

Distribution of Population of Northwest Territories by Ethnic Groups 1961

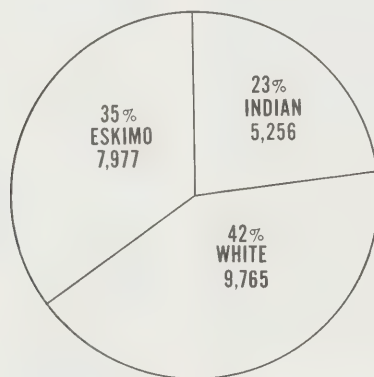


FIGURE 9

Approximately 65 per cent of the total population is concentrated in the Mackenzie District, 25 per cent in the District of Franklin and 10 per cent in the District of Keewatin. The main centres of population in the Terri-

ories are depicted schematically in Figure 10. Most of the white population, 82 per cent, and almost all of the Indians are in the Mackenzie District, while 80 per cent of the Eskimos live in the eastern Arctic.

Distribution of Population by Communities of 50 Persons and Over

BASED ON 1961 CENSUS

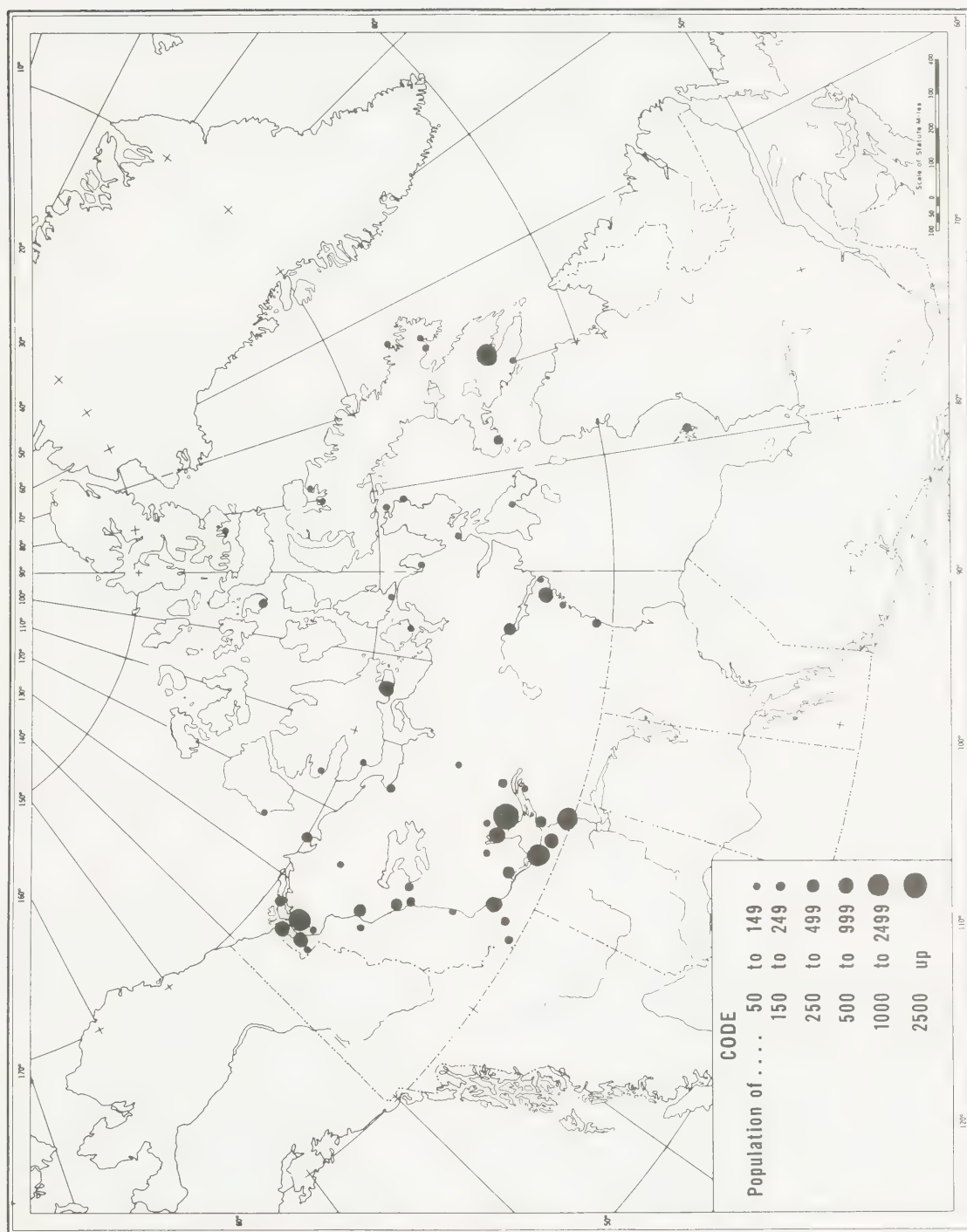


FIGURE 10

Percentage Distribution of Population by Age Group and Sex

N.W.T., Canada and Selected Provinces 1961

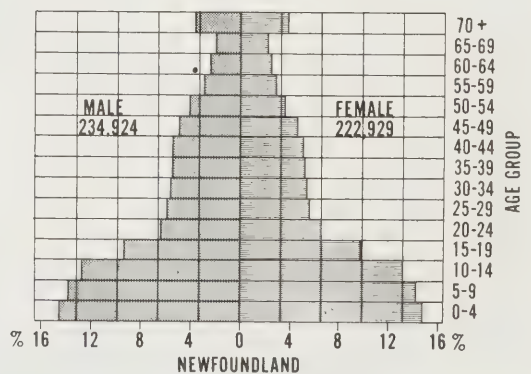
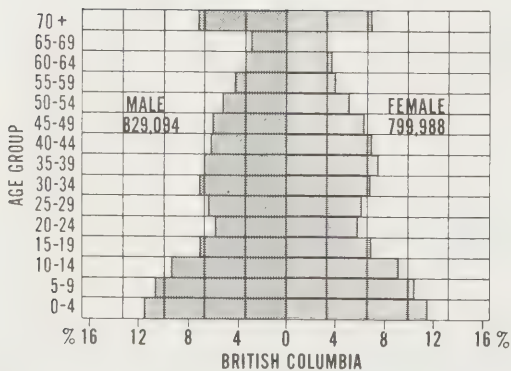
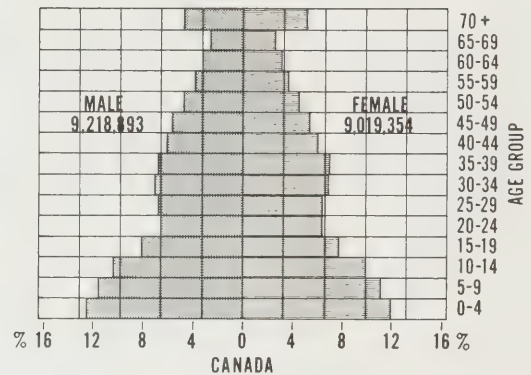
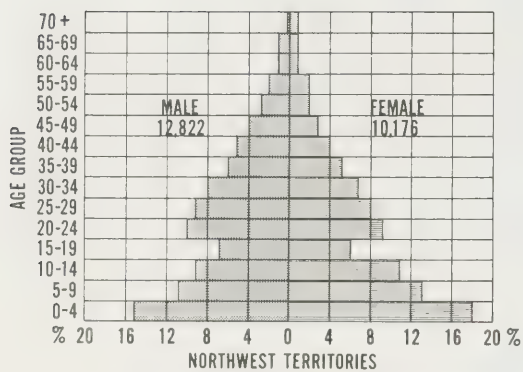


FIGURE 11

TABLE 2
Distribution of Population in Selected Age Groups Northwest Territories,
Selected Provinces and Canada

	Total Popula- tion 1961	0-4	Percentage of Total Population	20-44 Years	Percentage of Total Population	60 and Over	Percentage of Total Population
Northwest Territories	22,998	3,890	17	8,873	39	996	4
Newfoundland	457,853	67,695	15	131,492	29	38,301	8
British Columbia . .	1,629,082	186,793	12	533,312	33	221,832	14
Canada	18,238,247	2,256,401	12	6,054,638	33	1,974,789	11

Source: Census of Canada, 1961.

Some Population Characteristics

The percentage distributions of the total population by age groups and sex for the Territories, Canada and selected provinces are shown in Figure 11. Two striking features of the territorial population which can be seen from the figure are the high proportion of the population in the very young, 0-4 years, age group, and the very low proportion of the population in the 60 years and over age group (Table 2). The high birth rate of the native population is the most important factor in the large percentage in the very young age group. Factors contributing to the small percentage of the population in the over 60 age group are the high death rates of the native peoples, particularly of the Eskimos, and the strong tendency on the part of whites, especially those not born in the Territories, to leave at or near retirement age.

The proportion in the teenage groups (10 to 14 and 15 to 19 years) in the population of the Northwest Territories is small in comparison with similar age groups in the population of the rest of Canada. High infant mortality among the native children when these teenagers were very young reduced their numbers. Also, a large proportion of the children of the itinerant white families in the Territories are below 10 years of age.

That portion of the population in the age group of 20 to 44 years constitutes the prime labour force of a region and is most important to its economy. Employment statistics for all of Canada show that people in this age group enjoy the highest rate of employment of all

potentially employable persons. The proportion of the population of the Territories in this age group is significantly higher than for Canada as a whole. However, the number in this group is somewhat biased because of the seasonal nature of employment in the North. Census data are gathered during the summer months when there is an influx into the Territories of seasonal workers in all categories of employment from construction to research, and they are recorded in the data for the Territories. Exclusion of these seasonal workers would probably bring the percentage for this age group more into line with that for the rest of Canada.

The population of the Territories also has a high ratio of males to females. The 1961 Census showed 126 males to each 100 females, while the ratio for all Canada was 102 males to 100 females. No doubt, the high male-female ratio in the Territories was also affected by the influx of seasonal workers who were almost all male.

Occupation and Income Levels

Usually, a region with a large potential labour force (population 15 years of age and over) in relation to its total population has a major asset for favourable economic growth and development. The Northwest Territories has 60 per cent of its population within this potential labour force age range as compared with 66 per cent for all Canada in 1961 (Table 3). The percentage for the experienced labour force in the Territories is in line with the percentages for Canada and the provinces and the percentage of wage earners is only slightly lower.

TABLE 3
Comparison of Labour Force, Northwest Territories, Canada and
Selected Provinces, 1961

Classification	Northwest Territories	Newfoundland	British Columbia	Canada
1. Population 15 years of age and over	13,771	266,290	1,119,939	12,046,325
Per cent of the total population	60%	58%	69%	66%
2. Total Experienced Labour Force*	7,452	112,310	577,648	6,471,850
Per cent of the population 15 years of age ... and over	54%	42%	52%	54%
3. Wage Earners**	5,499	88,309	474,316	5,162,716
Per cent of Experienced Labour Force	74%	79%	82%	80%

*Those who had worked for wages in the year prior to the census.

**Those holding jobs and earning wages at time of census.

Source: Census of Canada, 1961.

TABLE 4
Distribution of Labour Force in Northwest Territories by Ethnic
Groups, 1961

Classification	Total	Indian	Eskimo	White (others)
1. Total Population	22,998	5,256	7,977	9,765
2. Potential Labour Force (15 years of age and over).....	13,771	7,165*		6,607
3. Experienced Labour Force.....	7,452	906	1,765	4,781
4. Wage Earners	5,499	392	723	4,321

*Figures not available separately.

Source: Census of Canada, 1961.

The distribution of this potential labour force given in Table 4 shows that 7,165 persons or 52 per cent, were Indians and Eskimos. However, only 2,671 of these or 34 per cent qualified in the experienced labour force category.

Carrying the analysis further to the actual wage earners at the time of the 1961 Census, there were only 392 Indians and 723 Eskimos employed in contrast with 4,321 white wage earners. Thus only 16 per cent of the Indian and Eskimo potential labour force were wage earners while 65 per cent of the white population in this category were earning wages.

The distribution of the potential labour force given in Table 5 shows that only in the occupations of fishing, trapping and hunting and

labouring do the Indians and Eskimos make up more than 50 per cent of the workers. These occupations require less formal education and training and yield lower incomes than most of the others. Native workers have a very limited share of the professional and managerial jobs.

The distribution of income from wages and salaries in Figure 12 gives a more complete picture of the disparity between the incomes of the native and white residents of the Territories. The white population has much the higher level of income as well as the bulk of the wage paying jobs. Figure 12 also shows that the incomes of a large proportion of the Indians and Eskimos are very small and not sufficient to provide a reasonable standard of living in the North.

Percentage Distribution of Income Level of Wage Earners by Ethnic Group

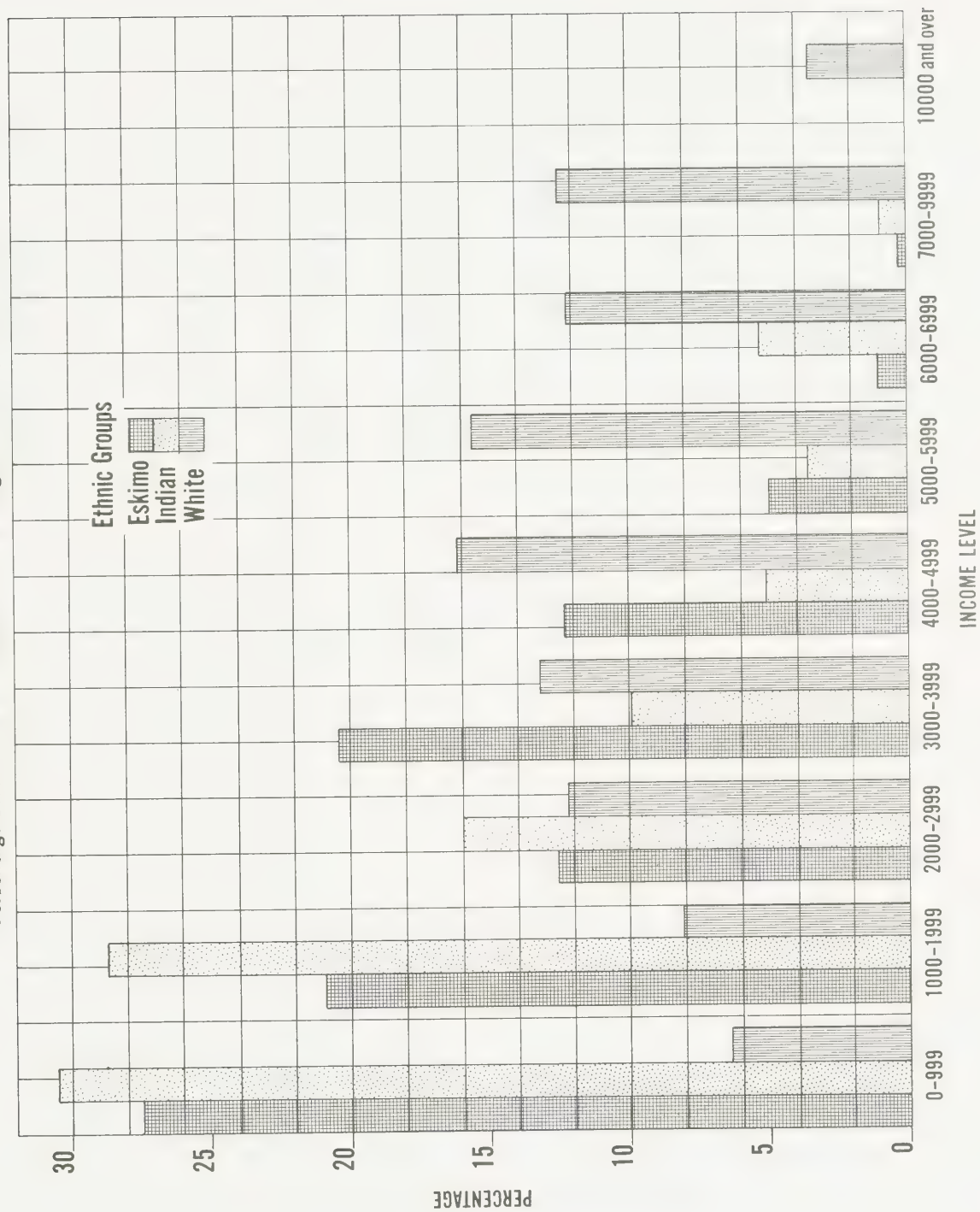


FIGURE 12

TABLE 5

**Distribution of the Experienced Labour Force by Occupation and Ethnic Group,
in the Northwest Territories, 1961**

Occupation	Total	Percentage of Experienced Labour Force	Proportion Indian And Eskimo	Proportion White (others)
Fishing, Trapping and Hunting	1580	21	96%	4%
Service and Recreation	1079	14	31%	69%
Craftsmen, Production and Related	1023	14	22%	78%
Professional and Technical	786	10	4%	96%
Mining and Related	548	7	10%	90%
Labourers not elsewhere specified	539	7	63%	37%
Clerical and Sales	502	7	8%	92%
Transportation and Communication	474	6	8%	92%
Managerial Occupations	408	5	2%	98%
Farming and Forestry	50	under 1	50%	50%
Occupations not stated	463	6	15%	85%

Source: Census of Canada, 1961.

TABLE 6

**Population 15 years of Age and Over with no Schooling in Northwest Territories
Canada and Selected Provinces, 1961**

Classification	Northwest Territories	Newfoundland	British Columbia	Canada
Population 15 years of age and over	13,771	266,290	1,119,939	12,046,325
Percentage of people 15 years and over with no schooling	34%	5%	1.4%	1.4%

Source: Census of Canada, 1961.

Education is a major factor in determining the distribution of the employment and income of individuals making up any potential labour force. There is little doubt that the lack of education is one major reason for the low employment and income level of the Indians and Eskimos in the Northwest Territories. This is emphasized in Table 6 which shows that 34 per cent of the potential labour force of the Northwest Territories has no formal education as compared with 1.4 per cent for all Canada. Many of the adult Indians and Eskimos never had an opportunity to attend school in their youth. The present younger generation will not be handicapped in this way. In 1955, there were fewer than 1,000 Indians and Eskimos enrolled in schools in the Territories. By

1965 this number had grown to 3,342. The next 10 years should bring considerable change in the educational status of the native people in the Territories and their place in the total employment picture.

Immigration and Migration

The 1961 Census lists 1,963 persons in the Territories as being foreign-born. The foreign-born represent about nine per cent of the population of the Territories and about 20 per cent of the total white population with whom they are classed. The pattern of the arrival of foreign-born persons into Canada and the Territories over the last six years is given in Table 7. Their contribution to the

population growth of the Territories is not now substantial.

TABLE 7

Numbers of Immigrants Entering Canada, Northwest Territories and Selected Provinces 1956-1964

Year	Northwest Territories	Newfoundland	British Columbia	Canada
1956-57	371	774	42,796	329,586
1958-59	213	456	20,239	188,340
1960-61	153	459	11,266	118,016
1961-62	74	373	7,227	70,005
1962-63	47	355	7,962	79,049
1963-64	50	379	10,318	102,355

Source: Dominion Bureau of Statistics.

Some of the 5,919 residents of the Territories listed by the 1961 Census as having been born in Canada outside the Territories are now long-term residents in the Mackenzie Valley, but the majority are individuals who go to the Territories to work for a relatively short period of time. This is particularly true of government employees. The 1961 Census identified 1,864 wage earners in the Territories as federal administrative and defence personnel. They were mainly white workers of all types, and represented about 43 per cent of all the white wage earners and about 19 per cent of the total white population. If the families of these government employees were taken into consideration, they would make up a very large proportion of the migrant white population of the Territories.

Indians and Eskimos do not have the freedom of movement enjoyed by the whites, as they usually leave the Territories only when the need for medical treatment or special training dictates. Those sent south for hospitalization account for the largest proportion of the Indians and Eskimos who leave the Territories; the number sent for special training is smaller. Movement of Indians and Eskimos constitutes but a small portion of the total outflow at any one time, and the majority return to their settlements at the conclusion of their treatment or training.

Population Trends

The method chosen for forecasting population growth in this study is based on the use of fertility rates (births per 1,000 women between the ages of 15 and 49 years) and death rates. Because this method takes into account the structure of the population it provides a reasonably precise estimate of population growth over a short period of time.

From the point of view of population projection, the most important features of the population are the numbers of women in the basic child-bearing group (15-49 years), the fertility rates, the numbers of girls in the younger age groups who will be moving into the child-bearing bracket, and the death rates for all age groups.

Fertility rates, plotted in Figure 13, differ considerably for each ethnic group. The Eskimo rates are the highest for all people in the Territories throughout the whole child-bearing period, whereas the Indian rates tend to decrease after the peak child-bearing period.* The white fertility rates are higher than the national rate in the period from 20 to 39 years of age.

TABLE 8

Death Rates per Thousand Population by Ethnic Groups, Northwest Territories and All Canada

	Under 1 Year	1 to 4 Years	5 to 64 Years
Indian	82	4.7	3.7
Eskimo	178	15.0	5.1
White	37	(Not Available)	(Not Available)
All			
Canada	27	1.1	2.9

Source: Department of National Health and Welfare.

Although death rates for Indians under five years of age are higher than the national average, in all other age groups they compare favourably with the national averages (Table 8). The Eskimos, however, not only have a very high infant mortality rate (5.5 times the all-Canada rate), but also throughout the Eskimo life span the death rates are higher than the average rates for either the Indians or Canada as a whole.

*Statistics show that the 20-39 year age group is the one in which most births occur.

Comparison of Fertility Rate - Live Births Per 1000 Females
Northwest Territories and All-Canada Average

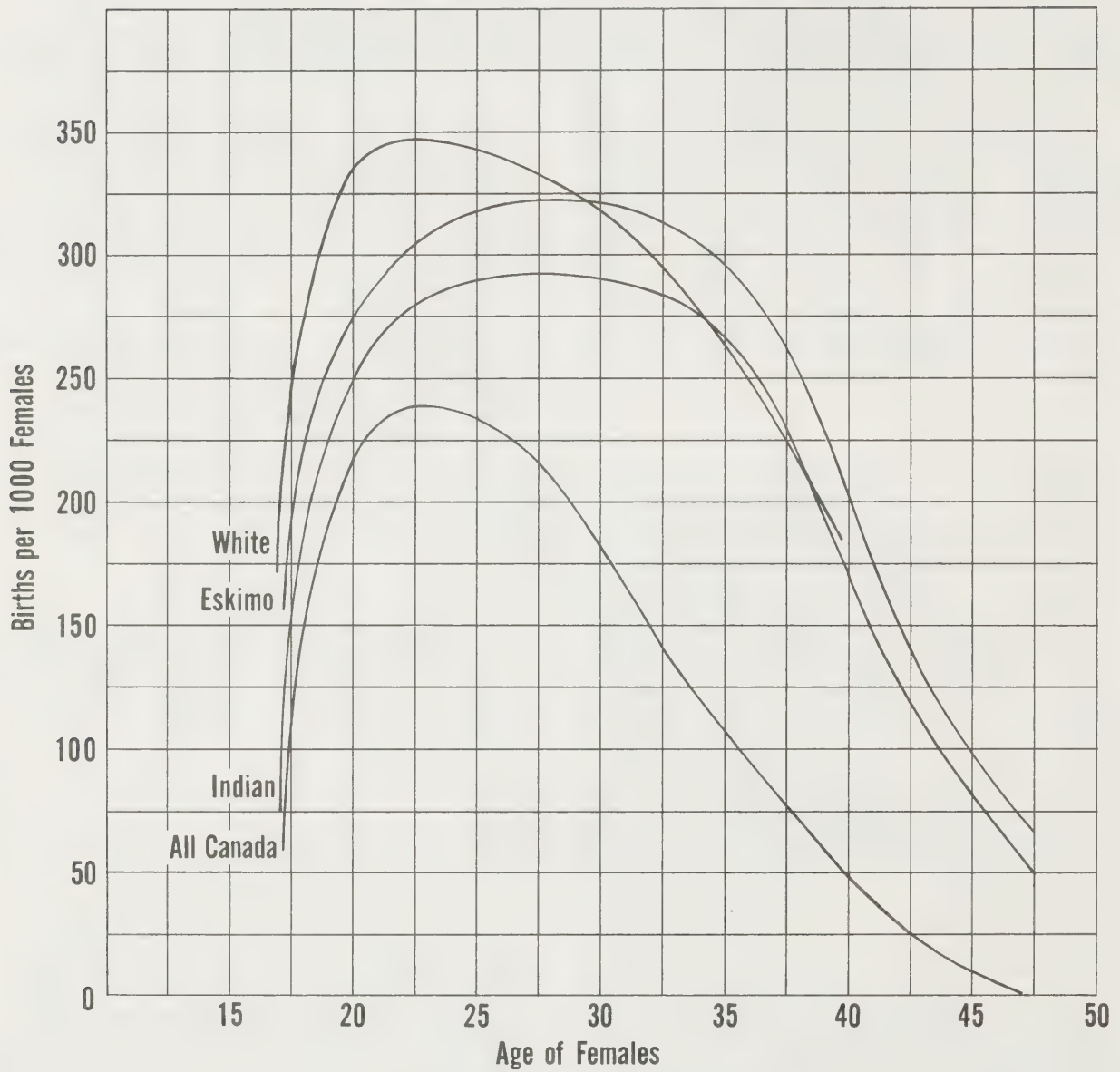


FIGURE 13

The significant differences in the population structures are evident from Tables 9, 10, and 11.* The white population of the Territories has an abnormally high number of people between the ages of 20 and 40 years in comparison with the population of Canada as a whole (Figure 14). The significant features of the Indian and Eskimo populations are the large numbers of very young people and the small numbers of people over 50 years of age (Figure 15).

TABLE 9

**Distribution of the White Population*
by Age Group and Sex, Northwest Territories, 1961.**

Age Group	Male	Female	Total Population	Percentage in each Age Group
0- 4	769	677	1446	14.8
5- 9	564	471	1035	10.6
10-14	355	322	677	6.9
15-19	306	201	507	5.2
20-24	756	346	1102	11.3
25-34	1490	748	2238	22.9
35-44	883	516	1399	14.3
45-54	550	265	815	8.4
55-64	282	103	385	3.9
65+	125	36	161	1.7
Total	6080	3685	9765	100%

*Including Metis, enfranchised Indians and other ethnic groups.
Source: Census of Canada, 1961.

The white population has grown at a faster rate between 1941 and 1961 than either of the two native groups. Variation in these growth rates is partly due to the fact that the white population growth has largely resulted from immigration, while the native population growth was based on natural increase.

*Only certain data are available from the 1961 Census for Indians and Eskimos separately. The Northern Health Service of the Department of National Health and Welfare has provided data from 1963 for the Indian and Eskimo projections. Data for the white population projection have been drawn from the 1961 Census as no more recent data are available.

TABLE 10
**Distribution of the Registered Indian Population
by Age Group and Sex, Northwest Territories, 1963.**

Age Group	Male	Female	Total Population	Percentage in each Age Group
0- 4	474	497	971	18.0
5- 9	350	401	751	13.9
10-14	319	295	614	11.4
15-19	270	252	522	9.7
20-24	209	214	423	7.8
25-29	179	156	337	6.2
30-34	163	157	320	5.9
35-39	149	129	278	5.1
40-44	134	95	229	4.2
45-49	98	69	167	3.1
50-54	100	76	176	3.3
55-59	77	79	156	2.9
60-64	72	76	148	2.7
65+	157	158	315	5.8
Total	2751	2656	5407	100%

Source: Department of Citizenship and Immigration.

TABLE 11
**Distribution of Eskimo Population by Age Group
and Sex, Northwest Territories, 1963.**

Age Group	Male	Female	Total Population	Percentage in each Age Group
0- 4	965	939	1904	20.2
5- 9	693	708	1401	14.9
10-14	573	562	1135	12.1
15-19	526	489	1015	10.8
20-24	390	400	790	8.4
25-29	341	360	701	7.4
30-34	287	272	559	5.9
35-39	229	194	423	4.5
40-44	232	198	430	4.5
45-49	178	140	318	3.4
50-54	148	110	258	2.7
55-59	80	85	165	1.7
60-64	65	60	125	1.3
65+	93	95	188	2.0
Total	4800	4612	9412	100%

Source: Sessional Paper No. IV, 1964, (First Session) Northwest Territories Report on Health Conditions in the N.W.T., 1963.

Percentage Distribution by Age of White Population Northwest Territories and Canada

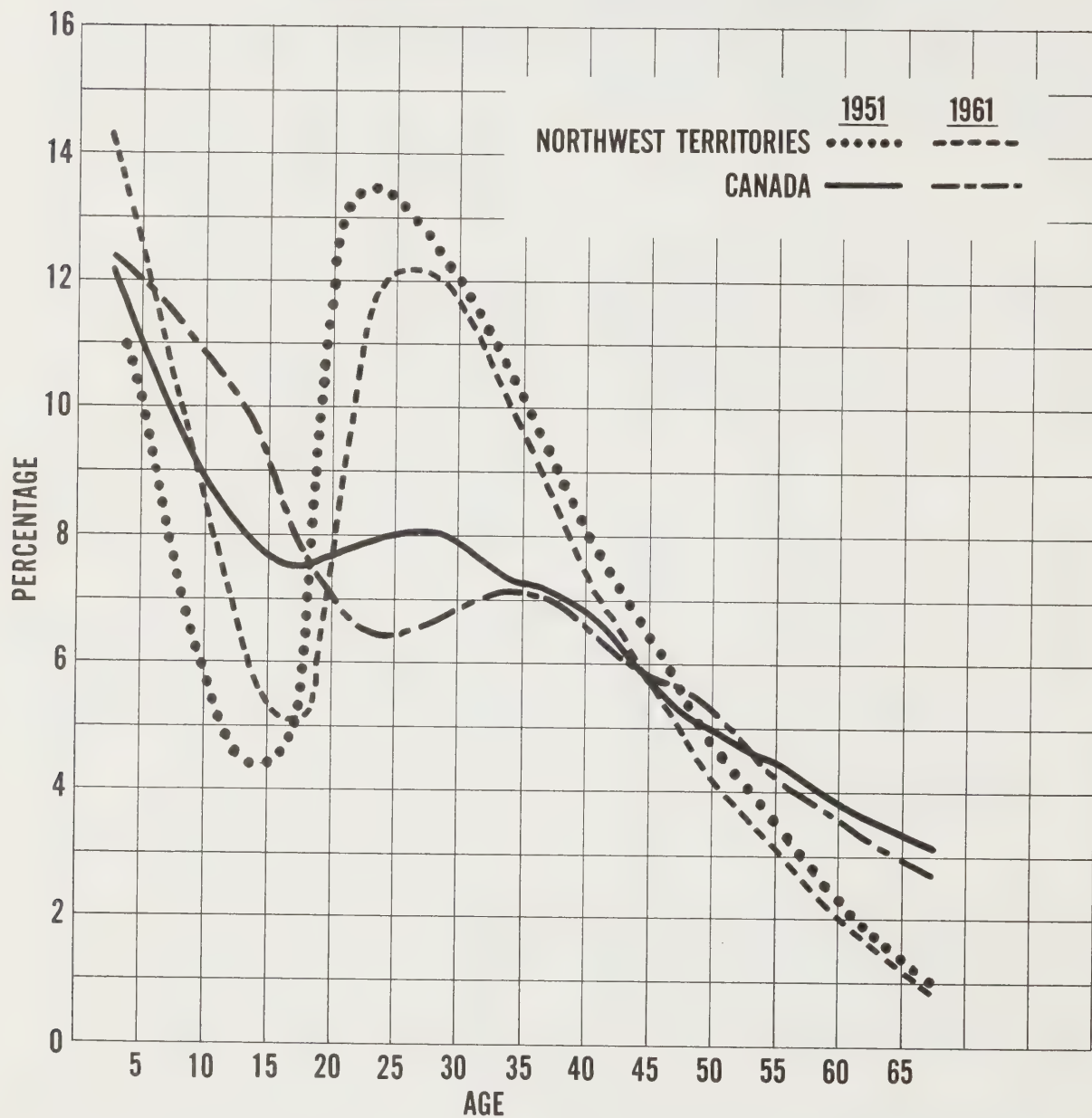


FIGURE 14

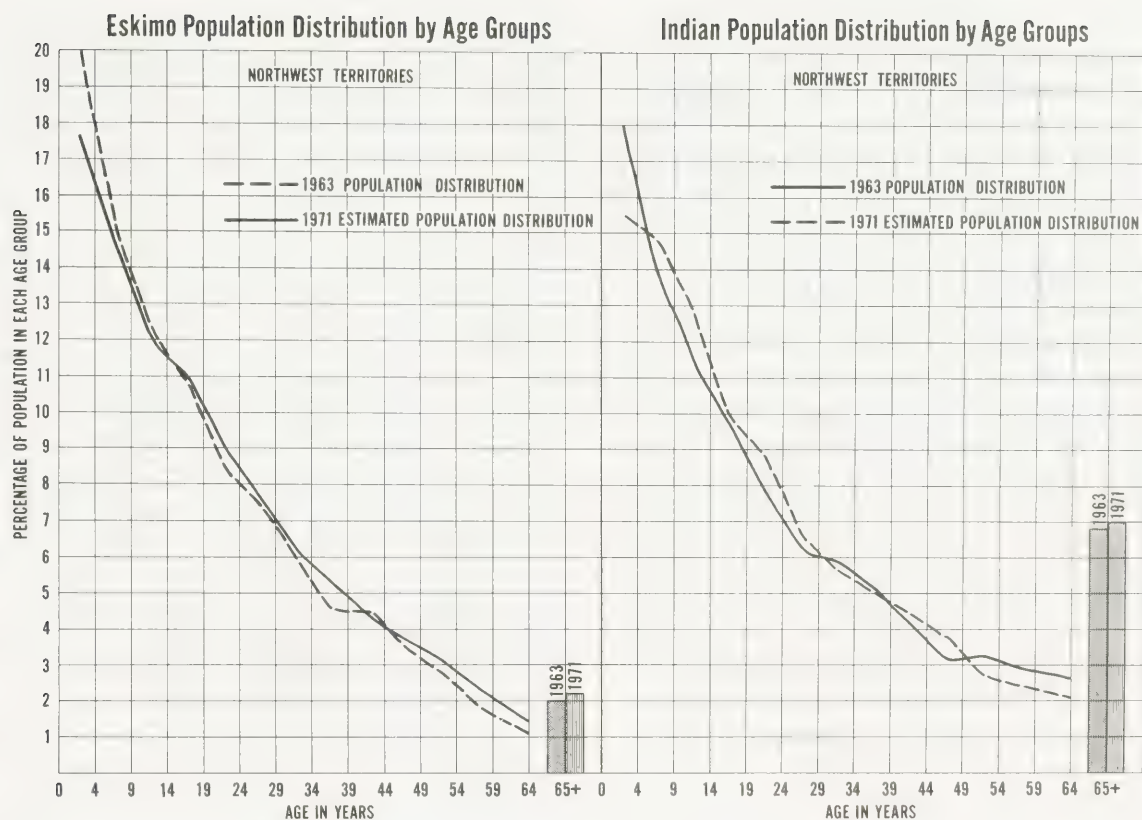


FIGURE 15

White Population Projection

Migration due to changes in economic conditions is a major factor in projection of the white population of the Northwest Territories; therefore three estimates were made of the 1971 population. A low estimate of 10,000 assumes a stagnation in the northern economy with a downward shift in employment by 1971. A high estimate of 14,200 assumes that the 1951-1961 upward trend in total population will continue from 1963 to 1971. For this to occur, however, the economy would have to be stimulated by a major development of the magnitude of the DEW Line, a development which would affect the whole of the Territories, not just a limited area. There is no indication of a development of this scope in the immediate future.

The medium estimate of 12,590, given by selected age groups in Table 12, is considered to be the most realistic. It assumes that residents now in the Territories will remain, or if they leave, they will be replaced by people with similar family characteristics. A significant error could enter the projection at this point. For example, if the DEW Line with its large working force of unmarried men were phased out and replaced by other types of employment which encourage the immigration of families, the 1971 population would have larger numbers of young women and children than indicated in the projection presented here. In any case, the natural increase will be relatively high, for the white female population is predominantly of child-bearing age.

TABLE 12

**1971 White Population Estimate
Northwest Territories**

Age Group	Estimated Population	Percentage in each Age Group
0- 4	1980	15.7
5- 9	1830	14.5
10-14	1440	11.5
15-19	1030	8.2
20-64	5940	47.2
65+	370	2.9
Total	12,590	100%

TABLE 13

**1971 Estimated Indian Population Northwest
Territories**

Age Group	Estimated Population	Percentage in each Age Group
0 - 4	1020	15.5
5 - 9	980	14.9
10 - 14	850	12.9
15 - 19	645	9.8
20 - 24	575	8.8
25 - 29	430	6.5
30 - 34	365	5.6
35 - 39	325	4.9
40 - 44	280	4.3
45 - 49	240	3.7
50 - 54	170	2.6
55 - 59	160	2.4
60 - 64	135	2.1
65+	395	6.0
Total	6570	100%

Source: The Registered Indian Population as of January 1, 1964, was used as the base. Fertility rates for the female Indian population given in the *Sessional Report on Health Conditions in N.W.T., 1963*, were used to estimate live births between January 1, 1964, and 1971. Reductions due to mortality were based on the death rates contained in the *Report on Health Conditions*. In certain age groups, these rates were inconclusive because of the small numbers of people in the groups; in these cases, an all-Canada rate was supplied.

Indian Population Projection

The 1971 estimate of the Indian population of 6,570 (Table 13) assumes that net immigration and emigration will be zero and that there will be no material change in infant mortality rates, overall death rates and fertility rates from 1963 to 1971. Although there is continuing improvement of medical services which will undoubtedly cause a decline in death rates, the period under review is too short a time for this to have any marked effect on the Indian population.

TABLE 14

**1971 Estimated Eskimo Population Northwest
Territories**

Age Group	Estimated Population	Percentage in each Age Group
0 - 4	2090	17.6
5 - 9	1720	14.5
10 - 14	1410	11.9
15 - 19	1295	10.9
20 - 24	1070	9.0
25 - 29	900	7.6
30 - 34	725	6.1
35 - 39	630	5.3
40 - 44	510	4.3
45 - 49	425	3.6
50 - 55	370	3.1
55 - 59	275	2.3
60 - 64	190	1.6
65+	260	2.2
Total	11870	100%

Sources: Sessional Paper No. IV 1964 (first session), *Report on Health Conditions in the Northwest Territories, 1963*.

Sessional Paper No. VII 1963 (second session), *Report on Health Conditions in the Northwest Territories, 1962*.

Sessional Paper No. VIII, 1962 (second session), *Report on Health Conditions Northwest Territories, 1961*.

Eskimo Population Projection

The estimate of 11,870 made for the 1971 Eskimo population (Table 14) is based on the same assumptions used for the Indian projection. It is also assumed that there will be a slower rate of growth than that which occurred between 1941 and 1961, when the Eskimo population increased three-fold over a 20-year period.

Beyond 1971

Over the past few years it has become apparent that the school-age population of the Territories is increasing rapidly. All indica-

TABLE 15

**Indian and Eskimo Population in Child-Bearing
Age Group Northwest Territories**

	1963	1973	1983
Eskimo — Total Women of Child-Bearing Age (15-49 Years)	2053	3000	4400
Indian — Total Women of Child-Bearing Age (15-49 Years)	1072	1600	2400

tions are that this will continue in the future. For example, it is estimated that by 1978 approximately 70 female Indians will move out of the main child-bearing age group — but 400 will move in. This pattern is repeated for the Eskimo population. It is impossible to predict on the same basis for the white population since this group is highly mobile and can enter and leave the Territories with ease.

If there is no material change in native fertility rates and little migration of Indians and Eskimos from the Territories, there will be an enormously increased demand for school facilities and training programs in the next 10 to 15 years. It appears that the average annual number of children coming of school age will be 50 per cent higher in 10 years' time than at present, and there will be a corresponding increase in the numbers of people entering the labour force.

PART II

THE ECONOMIC BASE

The economic base of the Northwest Territories is almost as varied as that of any more mature economy, although the concentration of activity is completely different. For the sake of simplicity, the present economy is described by sectors with some indication given as to the prospects of each sector over the next five years. The terms of reference and assumptions used in this study are given in Appendix I. A survey of the resources on which the economy of the Territories is based is given in Appendix II.

PRODUCTION

Agriculture

The Department of Agriculture estimates there are some four million acres of potentially arable land in the southwestern portion of the Northwest Territories. A soil survey of the Slave River Lowlands reveals that out of a total area of 2.2 million acres, 18.2 per cent or 397,000 acres are classified as Class 1 arable land with no limitations. A further 1,182,000 acres are listed as Class 2 arable land with moderate limitations.

At present, farming in the Northwest Territories is limited to a few small farms devoted to market gardening and serving the immediate needs of a local market. Most truck crops can be grown with shelters but the lack of markets and storage facilities severely restricts production.

The 1961 Census recorded a total of 11 farms. These reported a total area of 518 acres of which 134 acres were classified as improved land. Value of products sold is listed

as \$13,000, but cash wages paid for hired labour totalled \$18,300. According to the data, 23 persons received either full or part-time employment in agriculture during that year.

As long as there is no scarcity of good agricultural land in southern Canada, there are no economic reasons for the development of commercial-scale agriculture in the North. This field of activity will not provide a base for economic growth in the near future. However, the kitchen garden and under certain circumstances, the small market garden have a place in the North and will continue to provide monetary, nutritional and psychological benefits to northern residents.

An important contribution from agriculture to the territorial economy is made by the federal experimental station at Fort Simpson. Annual wages and salaries for this operation are about \$46,000 and the total operating and maintenance budget is \$65,000. Capital investment over the last five years totals nearly \$400,000. Plans call for the experimental station's program to continue at least at its present pace. A small experimental station comprising four acres has recently been established at Inuvik.

There are no prospects of agricultural development in the eastern Arctic.

Forest Production

Present statistical coverage of logging gives a totally inadequate base upon which to build an economic analysis. The comments which follow must be considered in this light. Forest operations form a small but necessary part of both the Yukon and Northwest Territories' economies. They provide the raw

materials for the few local sawmills and mines and undoubtedly help reduce some of the high cost of living in the North.

There is every indication that labour productivity in this industry is low and the worker is generally less skilled than his counterpart in the provinces. Apparently, something less than 900,000 and 1,600,000 cubic feet of merchantable timber were cut in 1962 and 1963, respectively (Appendix IV). Corresponding values amounted to \$150,000 and \$390,000. Undoubtedly more wood was cut than these figures indicate.

To be efficient, forest operations must have adequate and demanding markets. Without these, there is no incentive to improve techniques and expand production. The outlook for the industry in the Territories is not at all encouraging. Much of the resource is highly scattered and offers no premium over timber in Alberta and Saskatchewan. Although it will provide essential material for a small local market, it cannot be expected to form the core for efficient industrial operations depending on export markets. Unless the sawmills in the Northwest Territories are able to produce quality structural material at competitive prices, employment in woods operations in the upper Mackenzie Valley will diminish as improved transportation decreases the cost of forest products imported from the provinces. Development of the forest resources can be expected only when there is a large scale local market or a scarcity of wood in nearby provinces.

The 10-year average annual loss for the Northwest Territories is reported to be some 19 million board feet and 205,000 cords, or approximately twenty times annual production. Conservative evaluations of losses exceed annual value of production and there is little chance these two figures will become more in balance in the near future. Losses from forest fire, depending on location, can have a severe detrimental effect on the availability of timber for local use. In addition, because of the slow growth rates of trees in the North, a severe fire can materially change

wildlife habitat for long periods of time. Much of the loss, however, is in the more isolated timber stands which will have no economic value for many years.

Mining

Mining today is the principal commercial economic activity in the North and there is little doubt that it will remain so for the foreseeable future. The value of mineral production of the Northwest Territories in 1963 amounted to 15.4 million dollars, down some 43 per cent from the peak year of 1960 when 27 million dollars' worth were produced (Appendix V). Gold accounted for 95 per cent of total value of mineral production in 1963 while in 1960 it represented only 52 per cent. Since 1960, production of both nickel and uranium ores has ceased and this is the chief reason for the sharp drop in total production.

Employment in the mining industry reached its peak in 1957 when 80 establishments reported 1,255 employees. Appendix VI contains principal statistics of the mining industry. Since that time there has been a steady decline to 1962 when 932 persons were employed and paid 5.9 million dollars in wages and salaries. In 1961, employment in mining in the Northwest Territories represented approximately one per cent of the total employment in the mineral industry of Canada, while wages and salaries paid in the Northwest Territories were 1.3 per cent of the Canadian total. The value of mineral production for the same year represented only 0.7 per cent of the national figure.

The mineral industry of the Northwest Territories in recent years has not kept pace with the growth of the industry in general. In an eight-year period ending 1962 the Northwest Territories' proportion of total mineral production has declined by close to 64 per cent (Figure 16). This vividly illustrates a fundamental characteristic of the mining business of the North - that of fluctuating output. The relatively small total production concentrated in only a few operating mines causes the territorial mining industry to reflect any significant change in the operation of one mine.

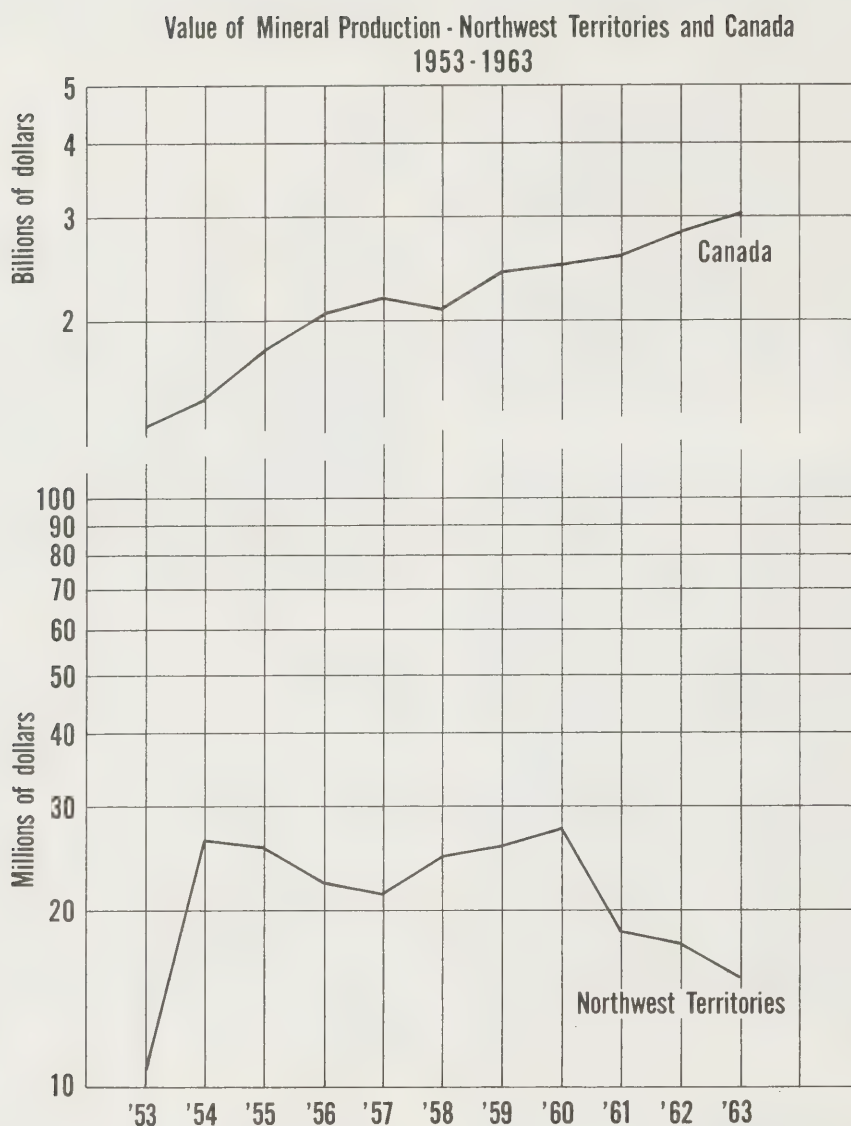


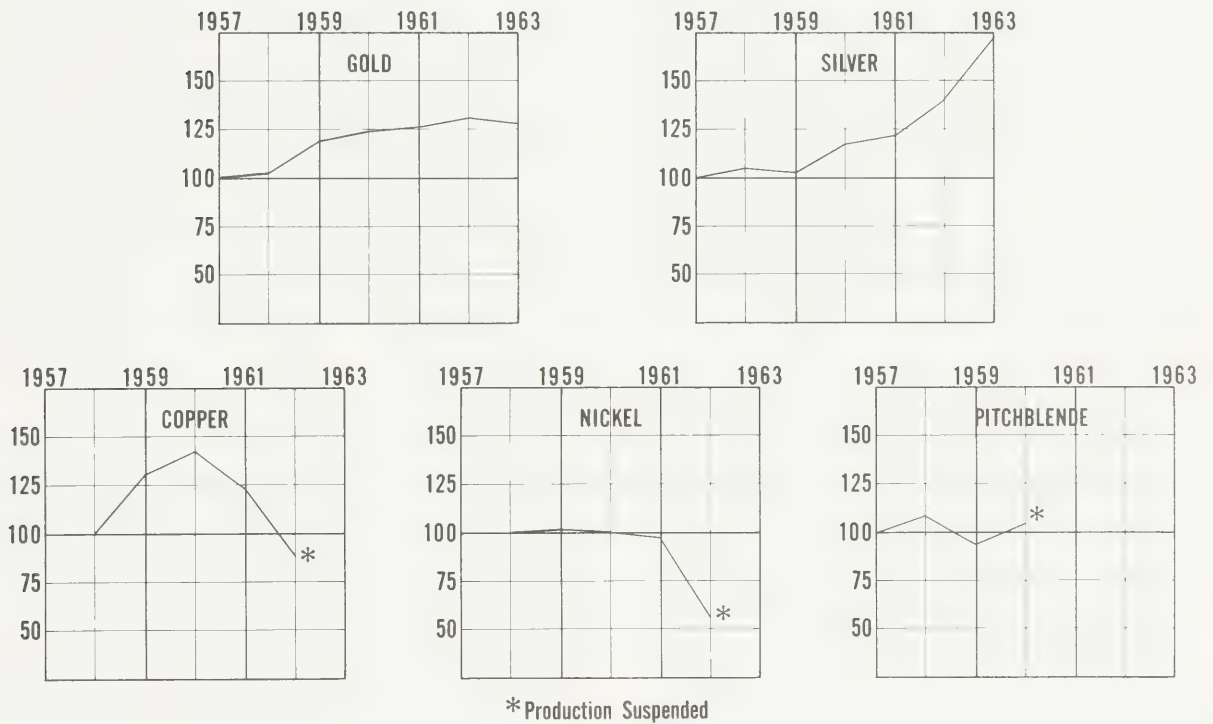
FIGURE 16

The start of operation of the Pine Point lead-zinc mine will change the entire complexion of the mining picture. It is estimated that the value of production from this mine will be over 20 million dollars annually and employment will be approximately 150 to 200 men. As Pine Point comes into production the lead-zinc

concentrates will supplant gold as the principal mineral product and the total value of mineral production in the Territories may reach 35 to 45 million dollars annually within a year or so. Figure 17 shows the relative change in the value of production of the various ores produced in the Northwest Territories.

Index of Value of Mineral Production for the Northwest Territories

Base - 1957 = 100



Index of Value of Fuel Production

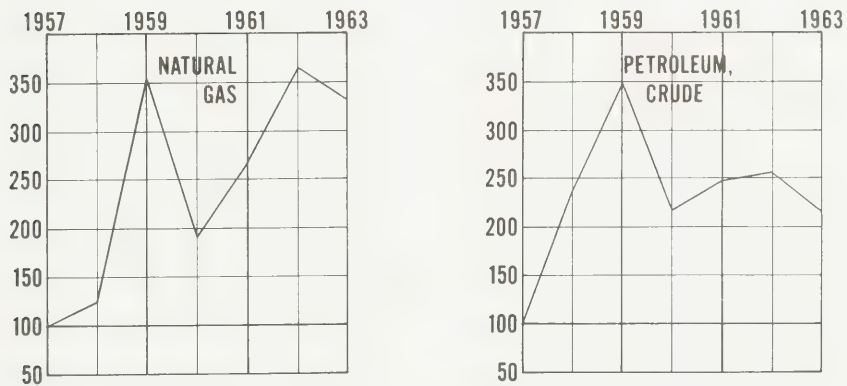


FIGURE 17

Gold

Gold was the first mineral to be extracted in the Northwest Territories, and up to the time of the Pine Point development it has continually dominated the mining scene. In recent years the value of gold production has stabilized at between 13 and 15 million dollars, all of which is from lode deposits. At present, there are four principal gold mining operations and there are reports of several interesting prospects. According to reports, Northwest Territories gold mines contain some of the highest grade ore found in Canada. At the same time, they are among the highest cost producers per ton of milled ore. Under the terms of the Emergency Gold Mining Assistance Act, it seems likely cost assistance will be paid to the four territorial gold mines for 1964 operations.

Gold has experienced considerable world market activity during the last year in response to speculation concerning the adjustment of the price level in the United States. An upward change in the United States price for gold or in the United States gold policy could very well stimulate gold prospecting and mining in the Northwest Territories, although the same effect would be felt throughout the world. However, there has been no indication of such a change from those in a position to speak authoritatively. Barring such things as the devaluation of the Canadian or United States dollar, it is reasonable to expect the value of the gold production in the Northwest Territories to increase slightly, approximately 10 to 15 per cent from the 1962-63 levels during the next three to five years, reflecting new production from Tundra Gold Mines and the apparently good ore reserve picture of other existing mines.

Nickel and Copper

The production of nickel at Rankin Inlet commenced in 1957 and continued until 1962 when the mine was closed due to the depletion of reserves. During this four year period the annual value of nickel concentrates averaged about 2.7 million dollars. Exploration for nickel and copper is continuing in the Territories but even if successful in the next year or so, a great many factors hinder the development

of a mine to full scale production within five years' time. Some large copper bearing deposits in Canada have been discovered and put into production within a two-year period, but the development of a northern mine is expected to take longer. Some amounts of copper as a by-product of other types of mines are likely to occur from time to time.

Uranium

In 1954, almost 15.5 million dollars' worth of uranium ore was produced in the Northwest Territories. Statistics are not available for production prior to that date. In 1956, production fell to about 9 million dollars where it remained until production ceased in 1960. Prospecting for uranium has recently received renewed interest, and exploration of known areas where uranium has been found should continue.

Lead-Zinc

The initial development of the Consolidated Mining and Smelting Company's (Cominco) Pine Point lead-zinc deposits will be complete when the concentrating mill goes into production late in 1965. High grade ore has been shipped since November 1964. During the first quarter of 1965 shipments totalled about 65,000 tons averaging 20 per cent lead and 30 per cent zinc. The effect of this ore mine on the statistical picture of mineral production as estimated in the Territories, will be tremendous. Annual value of production is estimated at more than 20 million dollars and permanent employment will probably be between 150 and 200 men. Federal Government capital expenditures on roads and railroads providing access to the property total some 86 million dollars. In addition, a 9 million dollar hydro-electric site development was undertaken on the Taltson River. Cominco has invested about 22 million dollars at the mine site and 10 million dollars for metallurgical facilities at Trail, British Columbia. The company through its Pine Point Mines subsidiary, will be repaying a 20 million dollar share of the federal government's outlay on the railway in freight surcharges over a period of 10 years.

The development at Pine Point has formed a focal point for extensive exploration in areas adjacent to the mine, and completion of the rail-

way has provided the impetus for exploration throughout the general Great Slave Lake area. Because of the time required to reach production stage, there is virtually no chance of a mine similar in size to Pine Point coming into full-scale production in the next five years. However, there is always the possibility that small localized lead-zinc ore bodies may be discovered and developed within five years, provided access and marketing arrangements can be made.

Tungsten

The Canada Tungsten mine began production in 1962 and was shut down in 1963 because of depressed prices for tungsten concentrates. The mine has since re-opened, after price levels moved upward, and contracts for production have been secured. Annual production at current prices would have a value of about 3 million dollars. Ore reserves are currently 15 times annual production thus assuring a good life span for the mine. Assuming the market for tungsten concentrates remains relatively stable and there is orderly marketing of ore by Communist China, the continuation of the Canada Tungsten operation over the short and medium term is assured.

Iron Ore

Several large deposits of iron ore have been outlined in the North. In the Northwest Territories the most recent find occurs on Baffin Island and consists of more than 125 million tons of open-pit ore grading 68 to 69 per cent iron. The Belcher and Nastapoka Islands in Hudson Bay also contain enormous tonnages grading about 40 per cent iron. The problems confronting the development of any of these prospects to the mining stage are those of transportation and mining costs in what appears to be a highly competitive buyers' market for iron ore. Canada has vast amounts of developed and underdeveloped iron ore of varying quality but it holds no unique position in this resource. For example, an official estimate of iron ore reserves in western Australia was eight billion tons in early 1964 and there are indications that in one state alone there are over 15 billion tons grading better than 55 per cent iron. Numerous factors point to a glut of iron ore on world markets.

The development of large deposits of ore logically require several years from discovery to production. The Quebec-Labrador iron ore deposits were first discovered around the turn of the century, re-discovered in the late 1940's, and finally came into production about 1954. In the North American iron and steel business most firms have captive ore reserves within their corporate structure and ore production is geared to the market demand for their finished product. Future ore requirements receive extensive study and the development of a new iron ore deposit usually falls within the scope of the long-range planning of these companies.

Consequently, there seems to be nothing to indicate that there will be any development of iron deposits in the Territories by North American interests during the next five years. It is possible that European concerns could become interested but the earliest that large-scale development is likely to commence is 1967 and a year to a year and a half longer would be required before the first commercial shipments could be made. According to some reports, a more realistic term for development is six to eight years. Extensive feasibility studies on the North Baffin ore body are being carried out.

Crude Petroleum and Natural Gas

Production of crude petroleum and natural gas in the Northwest Territories is concentrated in the vicinity of Fort Norman where the Imperial Oil Company Limited owns and operates a small refinery. The field was discovered in 1920 and commercial development took place during World War II. All crude production is utilized within the Territories. In the last 10 years, crude petroleum production in the Territories has more than doubled (Figure 18). However, production in Canada as a whole has increased about three and a half times during the same period. Crude production since 1961 has ranged between \$630,000 to \$755,000 in value. Generally, crude values per barrel in the Territories are one third to one half of those in the Prairie Provinces. The production of natural gas is small, representing only about three per cent of the total value of the industry.

Crude Petroleum Production, N.W.T. 1952-1963

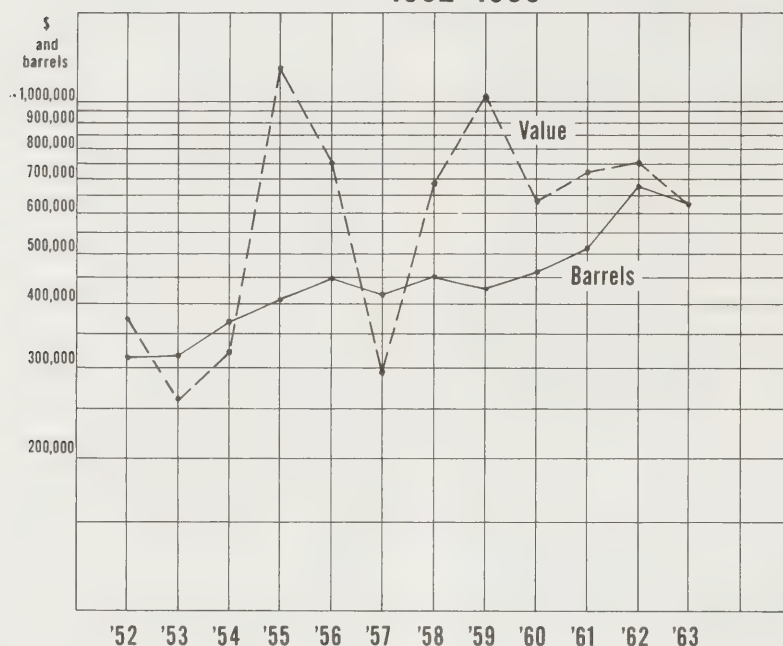


FIGURE 18

The expansion of crude production will depend entirely upon local population and business activity. Nevertheless, the past 10 years' growth in production has been quite substantial, averaging about eight and one half per cent per year, and if this trend continues over the next five years, annual production will exceed one million barrels. Because of the nature of the petroleum business, employment is not expected to increase proportionately to production, but wages and salaries will probably follow the production trend closely.

Mining Summary and Outlook

Mining represents the best possibility for large-scale economic expansion in the Northwest Territories. However, the principal road block in the way of this development is the apparent lack of any critical scarcity in southern markets of the known mineral resources in the Territories. Depletion of ore reserves

located close to market centres will occur but normally this is predictable several years in advance. The exploitation of the Pine Point ore body is an excellent example of this process in action. Up to the time of this mining venture, successful mining operations in the Territories depended upon a low-bulk, relatively high-value product. The rail line to handle the bulk products of Pine Point has undoubtedly brought some other known and unknown resources closer to economic reality. However, sporadic spurts of build-up in the mining sector of the economy will average out over the long term in a slowly rising trend which will reflect the much larger supply and demand picture of finished products in world markets.

If all goes according to expectations, the value of mineral production in 1965 should reach 25 to 30 million dollars and the next year approach 40 million dollars. In five years' time a 50 million dollar annual value is concei-

vable. Employment will probably level off at a forecast height of 1,100 after 1967. Wages and salaries very likely will climb faster than industry averages for the country as a whole.

Mining as an activity in the Northwest Territories offers a few substantial benefits. First, as an employer, wages and salaries paid are well over national averages. Second, employment for the most part is year-round and relatively stable. Third, the hard-rock miner of today is generally a family man and like other resource workers wants to live with his family. This attribute alone furnishes the principal incentive for a build-up of community life thereby helping to create a viable economic atmosphere. The Pine Point development will contribute considerably less to the economy of the Territories than it would if the mine were located well within the Territories. Because of the mine's physical location, it is anticipated that much of the secondary business that could be generated by a town based on Pine Point's payroll will by-pass local businesses and

flow directly to centres in Alberta, although there will be some build-up of retail trade and services in Hay River.

Fisheries

The commercial inland fishery of the Northwest Territories, concentrated on Great Slave Lake, yielded a gross value of products of \$1,330,000 in 1963, 78 per cent of which was attributable to whitefish and whitefish products (Appendix VII). Little change has occurred in gross value since 1957, but the importance of lake trout in the total has steadily declined (Figure 19). Employment in the primary operation in 1963 was estimated to be 453, some 80 less than in 1957-58. Productivity in terms of dollar value per fisherman for 1963 was about 30 per cent higher than that for 1957, and disregarding year-to-year fluctuations, the trend is definitely upward (Appendix VIII). In terms of pounds of fish landed per man, the short term trend also appears to be upward although the year-to-year fluctuations are more erratic

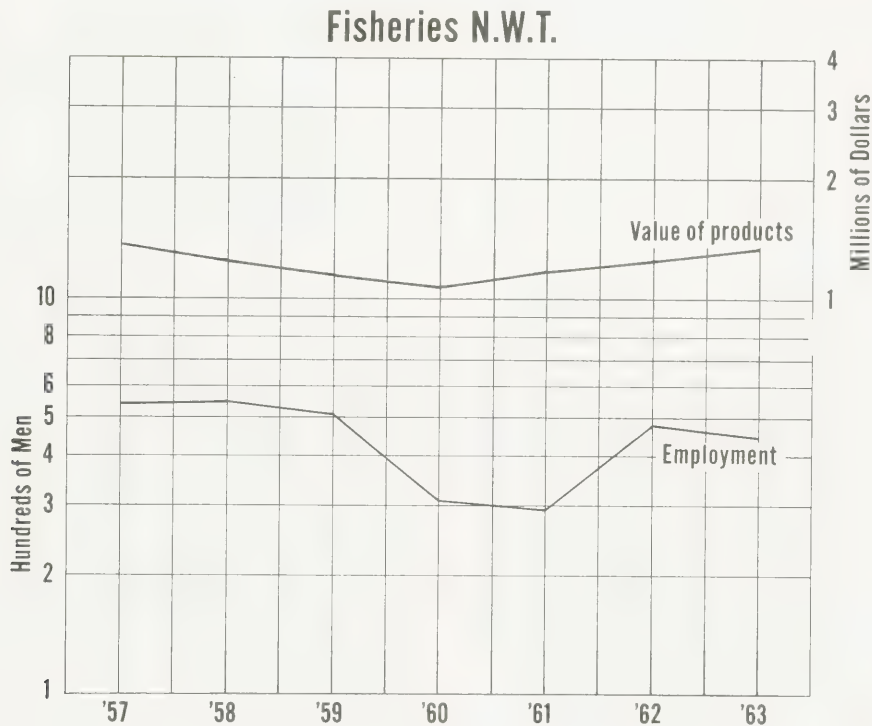


FIGURE 19

and obscure the pattern. Evidence suggests that most fishermen work either the summer or winter season but rarely fish both seasons. If two-season fishing occurred, the number of fishermen engaged would undoubtedly be reduced while individual annual earnings would rise. Even if this were the case, the gross average income per licensed fisherman would only amount to \$2,000 to \$3,000.

The productivity of the Northwest Territories fishery compares very favourably to that of the Prairie Provinces. During the past six years, the dollar yield per fisherman in the Northwest Territories has been about twice that of Saskatchewan and Manitoba and closely approximates that for Ontario. Figure 20 shows these comparisons clearly. In the Prairie Provinces and Ontario, in contrast to the

Northwest Territories, many fishermen fish only part-time, and are able to live and operate from their homes using fishing as a second occupation to supplement earnings from other full-time or nearly full-time occupations. Unfortunately, the important statistics from an economic viewpoint, income per full-time fisherman, are not available for the provinces.

On the whole, fishing in the Northwest Territories can be looked on as an industry which will provide a very few residents with adequate full-time earnings. It will probably provide a much larger number with seasonal incomes but this income cannot be considered adequate for year-round family maintenance. Net income is without doubt very low, and if it were calculated on an hourly basis, would provide no incentive for increased participation.

Inland Fisheries Productivity
1962

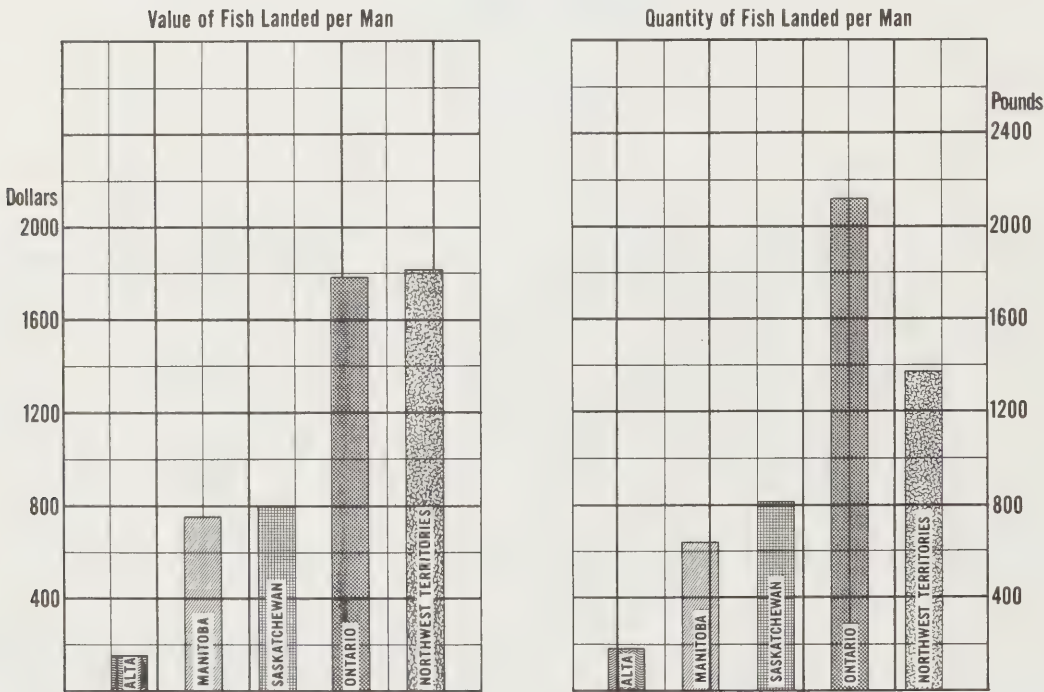


FIGURE 20

The outlook for the industry is one of maintaining the status quo. The yearly quota for Great Slave Lake is currently set at nine million pounds or about 42 per cent above the present annual catches. It appears that sufficient data are available to enable an upward revision in the quota to 12 million pounds, but this seems unlikely until annual production approaches the present quota. The wholesale prices of freshwater fish over the last 30 months do not show any conclusive trends. Some prices are up, some are down, while others have had little change. In the face of declining per capita consumption of fish in major United States and Canadian centres, marked shifts in prices cannot be expected to occur over the short term and the prospect for freshwater fish prices to rise more rapidly than prices in general is remote.

The average annual value of production in five years' time is predicted to be within 15 per cent of the 1961-63 averages. Employment is more likely to decline than increase although any change will be small. These estimates are, of course, dependent upon a continuation of the consumer preference patterns of the last five to ten years. There would have to be drastic market changes, such as a sharp increase in the price of competing foods or research findings such as a discovery that related fish to a cure for cancer, in order for these patterns to change enough to materially affect the fishing industry in the Territories within the next five years.

Fur

The production of wild fur pelts has been an integral part of the Northwest Territories' economy for over a century. In recent years, the relative importance of fur has declined as the territorial economy diversified and expanded. During 1962-63, the trapping season yielded about \$846,000 gross value or seven per cent of the national total for wild furs. With the exception of 1960-61, the value of production in relation to Canadian totals has shown little change during the last 10 years (Appendix IX).

Fox, in particular white fox, was, for many years, the principal fur bearer trapped. In the last two years, however, white fox has experienced a sharp decline in market position and its place has been taken by a corresponding increase in the total value of muskrat and mink pelts harvested. This is shown in Figure 21.

Although it is not possible to ascertain the total number of persons trapping in the Northwest Territories, the number of registered trapping areas has remained constant since 1957. A general hunting licence is required to trap in the Territories and the number of licences issued has moved upward from 2,274 in 1957-58 to 3,621 in 1963-64. Ownership of a general hunting licence does not necessarily mean the holder was trapping. Nevertheless, if it is estimated that at least 2,500 persons engaged in trapping in one form or another during 1962-63, the average gross income per trapper from trapping would be about \$340. The Department of Northern Affairs reported that average trapper income by settlements ranged from six dollars in Frobisher Bay to \$2,641 in Sachs Harbour. For this paper, it is assumed that net profit is about 50 per cent of gross value of production. On this basis, trapping provided \$430,000 of net annual income during the 1961 to 1963 period.

The short-term prospects for trapping, as a field of economic activity in the Territories are for the present pattern to continue unchanged. In the last 10 years, the value of production has exceeded one million dollars only twice and with these two exceptions, year-to-year variation has been slight (Figure 21). There are no underlying reasons or forces to cause this pattern to change dramatically. Since furs are luxury items, demand can vary with changes in the business cycle and they must compete with such commodities and services as cars, boats, appliances and recreation for the consumers' discretionary income. The most important factor in determining demand for furs has been stated as "expectation of an economic upturn". Demand for most Canadian furs has been relatively strong during the last few years, reflecting the buoyant economies of North America and Europe. More recently, Japan has shown interest in Canadian furs and they have been well received.

Over the long run, the overall prospects for the fur industry seem good but wild furs continue to take an ever decreasing percentage of the total fur market. Because of the "fad and fashion" nature of the fur business, sudden and unanticipated changes in consumer preferences can be expected. For example, a change in fashion of men's wearing apparel to incorporate more wild fur items could create a tremendous uplift to the trapping industry in the

Value of Fur Production - Northwest Territories (millions of dollars)

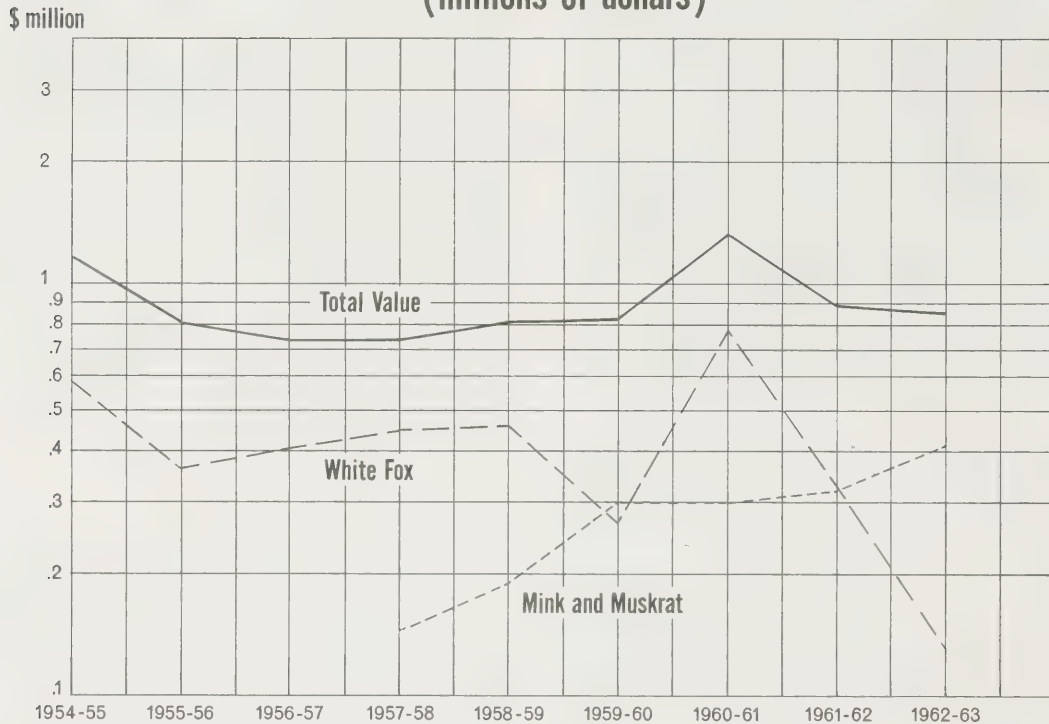


FIGURE 21

Territories. Disregarding this type of influence, the gross value of trapping in the Northwest Territories should remain at present levels in the next five years, not exceeding 1.2 million dollars. As prices in general are likely to rise over the same term, this means that the net income of trappers will continue to shrink.

Sealskins

Sealskins, as a source of revenue to the Eskimos in the Northwest Territories, have made a startling gain in the last two years. Average value per skin has increased from \$4.65 for the 1961-62 season to \$14.73 for the 1963-64 season. The number of pelts increased at nearly the same rate from 10,500 in 1961-62 to 47,000 in 1963-64. The trend over the past

three years is shown in Figure 22. Total value in the three-year period has increased 14-fold from \$49,000 to \$692,000 (Appendix X). The difficulty of assessing the impact of this upward trend is complicated by both the lack of data and the fact that the finished product ends up as a luxury item. Economic bubbles based on fads, fancy and fashion have been known to burst and prices fall quickly. In the fur industry, the consequences of sudden changes in supply or demand are accentuated by the time lag between production and marketing of the finished product. Increased supply in response to the previous year's price levels can literally flood the market if demand during the intervening period slackens somewhat. Sellers may be forced to hold supplies over for later auctions and a downward trend of price and buyer enthusiasm can accelerate.

Number and Value of Seal Skins Sold to Traders N.W.T. 1962-1964

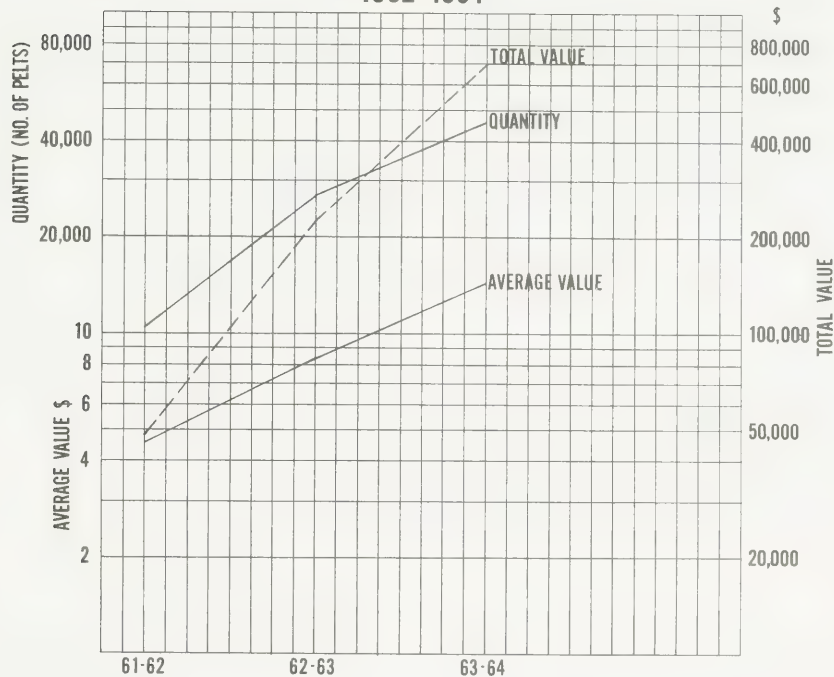


FIGURE 22

The style of some of the seaskin items placed on the market has successfully gone against the fashion trend and other seaskin items have been designed to take advantage of the huge after-ski market. Because of this shared marketing and a new method of processing, seaskin products may be able to achieve a small but continuing market over the short term. It is anticipated that demand will level off during the next year or two and under these condition prices usually stabilize slightly below peak levels. Although the market picture for the most recent season has not been fully revealed, prices seem to be easing slightly from last year's levels. Assuming that this is indicative of a stabilized demand level, average value may settle around \$12 per skin by next season. This means the industry will have an annual value to the Northwest Territories of approximately \$500,000 to \$600,000 over the short term.

Manufacturing

With the exception of the Imperial Oil Company's refinery at Norman Wells, little manufacturing, as defined by the Dominion Bureau of Statistics, is carried on in the Territories. The Bureau's records show that in 1963 there were five operating firms consisting of an oil refinery, a bakery, a soft drink bottler, a publisher and a sawmill, and that all manufacturing was dependent upon the local or Mackenzie Valley market area. These firms were all in business before 1959 (the earliest data available) and if past performance is an indication, it is likely they will remain in business during the near future. The recent history of manufacturing in the Northwest Territories shows it has not been a flourishing business. According to the Bureau's records, there were five sawmills, two bakeries, and one sheet metal firm that have gone out of business and were deleted from the statistical records during the last five years.

Although the Dominion Bureau of Statistics attempts to obtain as complete a coverage of manufacturing as is physically possible, it is suspected that some operations in the Northwest Territories are missed in their surveys. For example, the census of the labour force in 1961 lists 16 different types of manufacturers with employees (Appendix XI). For the same year, the Census of Industry coverage was obtained for only six industrial classifications. It is highly possible there are some discrepancies and overlap of definition between these two surveys.

Based on the 1961 census of the labour force, the annual income of the 146 individuals reported as working in manufacturing is estimated to have been \$600,000. The level of wages and salaries reported by the five firms

in the 1963 Census of Industry is considerably below this level, but because of the overwhelming effect of the Imperial Oil Company's operation on manufacturing statistics, these data are confidential. However, Figure 8 shows the relative change in wages and salaries for the manufacturing firms exclusive of Imperial Oil Company's refinery operation which can only be depicted by statistics of crude oil production. From Figure 23 it is obvious that the other four manufacturers have not experienced any growth during the four years (Appendix XII). Salaries and wages have risen while the value of shipments remains unchanged. Value added by manufacture, which reflects the profit side of the ledger, has fallen. For the next five years, it is not possible to foresee any material change in this picture.

Index of Manufacturing Activity in Northwest Territories
(Exclusive of Imperial Oil Limited)

1960 = 100

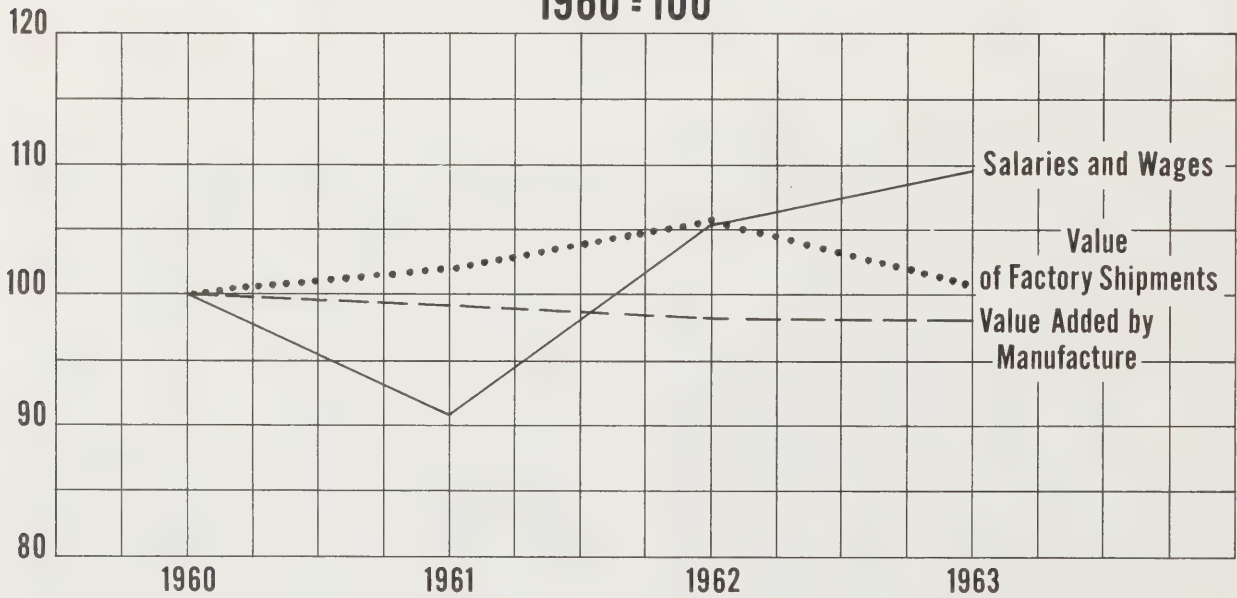


FIGURE 23

It would be completely unrealistic to think that secondary manufacturing depending upon markets outside the Territories and in competition with goods produced in southern Canada, could succeed on a large scale in the Northwest Territories without subsidy. Not only are costs of fuel and electricity higher there, but also skilled labour may be difficult to obtain and hold without substantial cash incentives. Finished products and materials used in manufacturing unless obtained locally, must be shipped long distances which adds to their cost. This does not mean that all manufacturing in the Territories will be unprofitable. Small industries catering to the needs of the local market, like those which exist now, can perpetuate themselves provided that the transportation cost of goods produced in the provinces is greater than the higher cost of manufacturing in the Northwest Territories. It is also possible that some specialty goods industries using locally produced materials not available in southern Canada, may find markets in the provinces. With good promotion, these could be highly successful for certain products which have a relatively high value in relation to weight, a price that a fair proportion of the population is able to afford and high consumer acceptance.

Co-operatives and Crafts

The Department of Northern Affairs and National Resources has sponsored the development of producer co-operatives among the native peoples of the North as a means of increasing income levels. Basically, these co-operatives and cottage industries are involved in the exploitation of local resources and place finished products with above-average labour content on both southern and northern markets. Experimentation and research have centred upon the preserving processes for local foods and the development of native art and handicraft. In 1960-61, the total revenue for co-operatives located in the Northwest Territories was about \$100,000 rising to an estimated \$230,000 in 1963-64.

There appears to be reasonable opportunity for economic success in a number of the producer co-operative undertakings. The prospect of developing small canneries based on local species of game and fish is of particular note. The extent to which this type of business can be expanded is hard to determine because

the product must be of high quality and since adequate promotion, particularly in the southern markets, is most important. Fortunately, the economies offered by large-scale operations will not be the limiting factor with specialty foods which offer liberal profit margins.

Administration and guidance for co-operatives are provided by the Department of Northern Affairs at no cost. Assuming the co-operatives and cottage industries continue to receive departmental support, total business for those located in the Northwest Territories may reach \$500,000 in five years' time and the profits of these ventures may grow.

Based on a survey conducted by the Department of Citizenship and Immigration in 1964, income to Indians in the Northwest Territories from the sale of handicrafts is estimated to have been about \$45,000. Slightly more than 200 persons derived employment and income from this activity.

Altogether, the co-operative, cottage and handicraft industries had an estimated gross sale of about \$300,000 in 1964. With reasonable growth in tourist travel in the Territories and fair success in marketing co-operative produce, the value of sales should double to an estimated \$600,000 to \$700,000 in five years.

Electric Power

The Northern Canada Power Commission, a Crown corporation reporting to Parliament through the Minister of Northern Affairs and National Resources, is the largest entity in the electric power industry in the Northwest Territories. Except for the fact that the Commission has been able to borrow money from the Federal Government at interest rates lower than those prevailing in the commercial money market, it operates on the same basis as a private company—revenues must cover all costs.

Because communities and settlements in the Territories are widely scattered, the cost of electric power to the domestic consumer is substantially higher than in most parts of southern Canada. Producers' revenue per kilowatt hour, which is indicative of generation costs, was four and a half cents from domestic consumers in the Yukon and Northwest Terri-

tories in 1962, about two and a half times above that in British Columbia and twice the average in Newfoundland. Only in Prince Edward Island does revenue per kilowatt hour approach that of the North. The average annual electricity bill to domestic consumers in the Yukon and Northwest Territories for 1962 was \$202 for an average consumption of 4,500 kilowatt hours. The same average consumption in Quebec would cost about \$65. Progress was made in the last three years for which data are available toward reducing electrical power costs and during this time revenue per kilowatt hour, as a reflection of costs in the North, has decreased by 30 per cent.

Electric power generation and distribution as an industry provided employment for 203 persons in 1963, an increase of 72 per cent since 1959. Salaries and wages paid in 1963 amounted to 1.12 million dollars or about double that for 1959. Sales of electrical energy to consumers during the same period increased by only 40 per cent while installed generating capacity grew by almost 58 per cent. The relative level of skill of employees in the industry is shown by the fact that average annual wages and salaries per employee in 1963 were \$5,500.

The outlook for the industry is quite buoyant. The demand for electrical energy in the Territories is expected to increase by at least 50 per cent during the next five years as the population grows and continues to concentrate in fewer locations. As a result, the cost of generating electrical energy should continue to decline. The Taltson River hydro-electric site being developed in conjunction with the Pine Point mine, will add greatly to installed capacity and will bring about lower power rates to some consumers in the Northwest Territories. Employment in the industry should not increase to any great extent over the short term but wages and salaries are expected to at least keep pace with national averages.

EXPLORATION AND CONSTRUCTION

Exploration

Exploration for minerals, gas and oil is one of the larger commercial activities in the Territories. A total of more than 60 million dollars has been expended on oil and gas exploration alone in the last 10 years. Activity in this

field hit a peak in 1961 when 11.1 million dollars were spent but since then activity has slackened (Appendix XIII). However, in 1964 expenditures were 8.7 million dollars which were well above the levels prevailing prior to the upsurge started in 1959. It is possible that natural gas consumption in the non-communist nations over the next decade will grow at nearly six per cent per year while oil consumption growth rates may increase at 2.7 per cent per year. Both forms of energy can be expected to capture a greater proportion of world energy requirements - indeed consumption of petroleum in non-communist nations alone may be more than 70 per cent greater in 10 years' time. These forecasts and other longer range predictions provide powerful incentives for oil and gas exploration in promising areas, the North being one such area.

Mineral exploration and early development of mining prospects cost the industry 3.4 million dollars in 1964. The number of mineral claims recorded, a good indication of exploration activity, has experienced wide fluctuation during the past 10 years. The number of claims recorded in 1964 was approximately equal to the 10-year average and no trend is apparent (Figure 24). A crude estimate of mineral exploration expenditures over the last decade is about 35 million dollars. Thus the total for all exploration for the past decade would approach 100 million dollars or approximately 10 million dollars per year.

Employment in exploration is largely seasonal and only one or two firms report year-round operations. Most companies bring their own skilled employees from points outside the Territories and about the only local requirement is for a limited amount of unskilled labour. According to data from the Workmen's Compensation Board, companies engaged in mineral exploration had a total payroll of 1.1 million dollars during 1963 covering 541 employees and representing about 2,800 man-months of work. In addition, diamond drilling, presumably directed toward mineral exploration, employed 117 persons and had a total payroll of \$440,000 for about 900 man-months of employment. The trend in the diamond drilling business, as evidenced by payroll statistics, is upward. It has increased approximately 60 per cent over the last five years.

Mineral Claims Recorded Northwest Territories 1955-1964

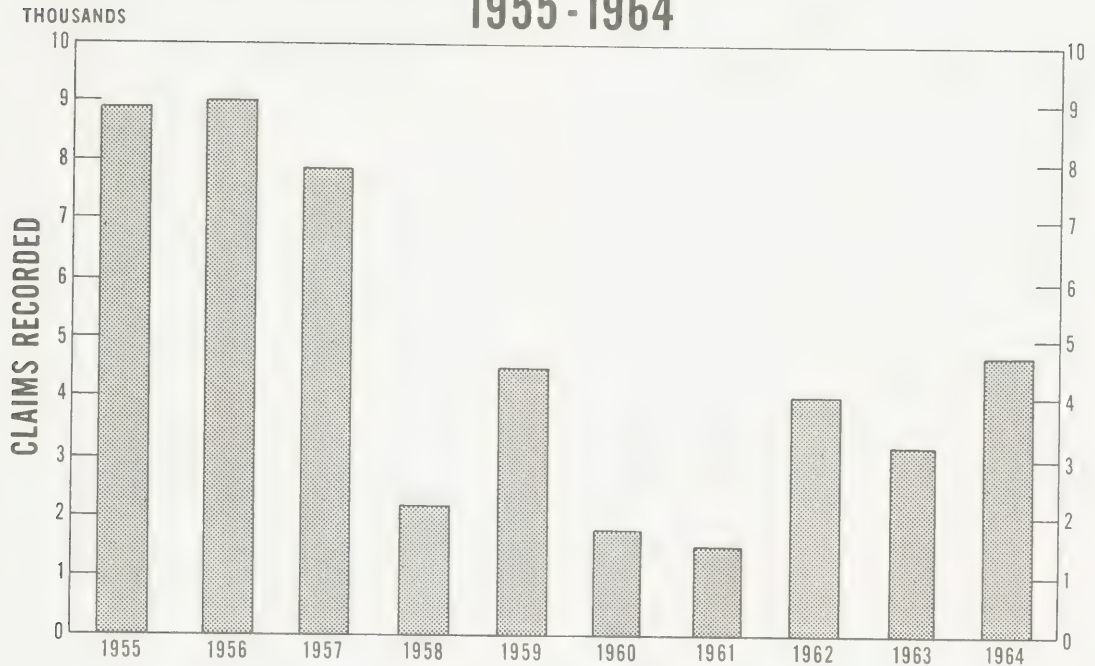


FIGURE 24

The economic impact on the Northwest Territories of these seemingly large expenditures was severely reduced because of the non-resident aspect of the entire exploration business. The most beneficial effect evident to date is on the transportation sector of the territorial economy but relatively little impact is felt on such things as retail trade.

The outlook over the next five years for these activities is next to impossible to forecast with any degree of accuracy. Exploration plans of companies are extremely sensitive to business cycles, mineral prices and prospecting news. They have been known to change dramatically within a few short months. Assuming no drastic change in the present atmosphere for exploration, it is likely that 40 to 50 million dollars will be spent for oil and gas

exploration over the next five years in the Peel Plateau region of the Mackenzie Delta. On the same basis, probably 15 to 20 million dollars will be spent on mineral exploration in the Northwest Territories as a whole. However, these activities will offer limited employment opportunities for residents of the Northwest Territories.

Construction

It has been impossible to obtain a comprehensive picture of construction activity in the Northwest Territories. Statistical surveys of this activity are in part based on building permits, housing starts, municipal employment and other like information. For the most part these nationwide surveys by-pass the Northwest Territories.

Construction is a big business in the Northwest Territories, but most, if not all, of the large construction projects have been undertaken by firms not resident in the Territories. Thirty-four firms were registered by the Northwest Territories Workmen's Compensation Report as being in the construction business in 1963. These firms employed close to 600 persons and had a payroll of 2.5 million dollars (Appendix XIV). Under the contractor category, 124 employers were listed by Workmen's Compensation as employing 526 persons with a total payroll of \$940,000. Outside of a few firms based on the larger centres in the Northwest Territories, most contractors have come from Alberta or have been nation-wide specialty contractors.

A rough estimate of the total value of work performed in 1963 is 11.2 million dollars, of which the cost of materials was 5.4 million dollars, and the net value of construction 5.8 million dollars. In contrast to activity in the provinces, the annual value of construction in the Northwest Territories has had wide fluctuations.

Construction will be a major activity in the North for many years to come. At present, local firms in the Territories are not geared to handle major projects and it may be some time before this comes about. However, for smaller construction projects which form a considerable part of the total picture, a fairly rapid build-up by local firms is anticipated over the next few years.

SERVICE INDUSTRIES

Tourism

Of all the industries located in or likely to develop in the North, tourism is the one most assured of future growth. It can be safely assumed that the present trend towards a shorter work week, longer vacation periods, higher standards of living and increasing mobility of the North American population will continue. The Northwest Territories has much to offer the tourist in the way of scenery and wildlife and the "last frontier" is becoming more accessible to the general public each year.

Growth of the tourist industry in the Northwest Territories over the last five years has been substantial. Annual volume of travel as measured by the number of visitors has increased from an estimated 1,000 in 1960 to 5,000 in 1964. Annual expenditures by tourists over the same period have risen from an estimated \$450,000 to \$1,300,000. The number of tourist lodges and camps has risen from five to fourteen.

The total government provision for tourist promotion in 1964-65 was \$62,400, of which the Territorial Government's share was \$35,700. In relation to the net value of the tourist industry, these figures may seem unusually high but it is well recognized that the maximum potential of tourism in the Northwest Territories can only be achieved if government plays an active role in its development.

The majority of tourist lodges in the Territories are large-scale operations by non-residents. Out of a total of eleven lodges, four are owned by Canadians living in the provinces and three by residents of the United States. The noticeable absence of territorial residents in this business is probably due to inadequate financing. Ten of the lodges are in the Mackenzie District. The outlook for growth in the eastern Arctic does not appear as good, basically because of the lack of ready access. One major and several experimental ventures have failed after only two or three seasons of operation. The reasons given for this have been lack of finances and knowledge of the business which has led to the operators pricing themselves out of the market.

At present, the territorial tourist industry is based largely on the recreational use of renewable resources - mainly fish. This presents a conflict between recreational use and the basic rights of the native inhabitants to harvest these resources. In one case, a successful sport fishing camp was faced with the possibility of having to close down after only three years of operation because harvesting of arctic char by Eskimos was so great that the catches by anglers had to be seriously curtailed.

Of necessity, the fishing lodges must cater to people who can afford to make the trip from southern Canada or the United States. Rates

vary for package tours depending on the point of departure. For example, four days' fishing on Great Slave Lake including lodging, guide service and boats, and return fare to Edmonton costs about \$400 with each additional day at \$60. Another lodge on Great Bear Lake charged \$645 for seven days including the round-trip from Edmonton, or \$100 per day with a three-day minimum. With daily expenditures of this magnitude, the tourist expects good accommodation and services, both of which require a large capital investment and managerial know-how.

The amount of income accruing to the Territories from tourism cannot be determined until adequate surveys of the industry are made. The lodges contribute significantly to local income through employment on a seasonal basis for northern natives. In 1964, there were approximately 100 guides in the Northwest Territories but of the 14 lodges and camps, only five reported their employees and payrolls to Workmen's Compensation. The total number of workmen reported was 57 and the total insured payroll was \$150,000. The average monthly wage appeared to range from \$250 to \$400 for a four-month season.

Apparently more southern residents are holidaying in the Northwest Territories. The number of non-resident angling licences issued has risen from 70 in 1957 to approximately 1,560 in 1964. Big game hunting in the Mackenzie Mountains will be exploited for the first time in 1965 as a tourist attraction. By February 1965, eight non-resident game licences (\$150 each) had been issued. Development of this aspect of the tourist industry should help to expand the industry.

The Northwest Territories Tourist Office estimates that by 1969-70, there will be 15,000 visitors annually to the Northwest Territories with a total annual expenditure of 4 million dollars and that there will be 35 tourist lodges and camps by that date. Although this prediction may seem relatively ambitious, it is quite possible that annual expenditures will exceed this prediction by 20 per cent. The rate of growth of the industry will depend to a large extent on policies concerning resource use, road and airstrip development, and the level of promotional activity maintained.

Retail Trade

The 1961 Census listed 110 retail establishments in the Northwest Territories. Of these, the Hudson's Bay Company accounted for 44, and five were territorial liquor stores. Gross sales for the census year were \$11,811,000, of which liquor accounted for \$1,649,000 or 14 per cent.

The retail trade sector of the Northwest Territories' economy closely resembles that which one would expect to find under pioneer conditions. Relatively little specialization has occurred and the "general store" is very much in evidence. To compensate for this lack of diversification, many of the skilled trades act as retailers for products used in their work and associated trades and most of this revenue is excluded from the above statistics. The wholesaler or distributor type of trade commonly found in large, well stratified urban communities is not present in the Territories. The development of trade and distribution in centres such as Yellowknife and Hay River takes on the characteristics found in small satellite towns of larger population centres in the South.

The 1961 Census lists 26 of the 110 establishments in the whole Northwest Territories as having Yellowknife addresses. A survey of the yellow pages of issues of the telephone directory for the whole of the District of the Mackenzie reveals that there has been considerable change over the years (Appendix XV). The 1964 yellow pages list 46 retail establishments and 10 engaged in the sale and servicing of automobiles. This implies that considerable growth has taken place since 1961 when only 45 establishments in the same categories could be located by the Census.

It is impossible to arrive at an estimate of true employment, wages and salaries, and capital investment for the retail trade. In 1962-63, Workmen's Compensation was paid by 44 employers in the merchant category for 307 insurable employees. Total payroll for insured employees approximated \$950,000 or about \$3,100 per employee. The Hudson's Bay Company, with 183 insured employees, paid close to 65 per cent of the total. Assuming that wages and salaries in retail trade represent approximately 10 per cent of sales revenue (national averages for chain stores indicate

this), the total wages and salaries paid by the retail trade in the Northwest Territories could amount to \$1,200,000.

Generally, the retail trade sector of the Northwest Territories' economy, because of its geographical scatter, is unorganized and undiversified. With few exceptions, capital seems scarce and there is insufficient business in any one line of goods to permit wide assortment of choice for the consumer. Apparently, many individual consumers in the Territories spend their money in large centres like Edmonton during the family's annual or semi-annual "trip out". The retail trade, because of its economic interdependence, will keep pace with the rest of the economy of the Territories but it may be a considerable time before choice in local stores is wide enough to tap the apparently large amounts residents spend in or through southern retail outlets.

Government purchases, due to their obvious magnitude, probably are a substantial force in the retail trade. It is impossible to calculate the extent to which northern trade would be upgraded if a still higher proportion of government expenditures for retail items were channelled through the northern outlets.

The development of mining operations at Pine Point may assist in the development of the Northwest Territories' retail trade. Much of the purchasing for this enterprise will probably be made in the provinces, but it is likely that expanded or new retail outlets will appear at either Hay River or Pine Point to divert at least some of these dollars from southern centres. Over the medium term the development of Pine Point could result in an increase in gross revenue for the retail trade in the Northwest Territories of \$1,000,000 per year.

Finance, Insurance and Real Estate

From a standpoint of employment and personal income, the contribution made by the financial sector to the northern economy is very minor. In 1961, employment, mostly in branches of commercial banks, was 30 and small increases have occurred since that time. Wages and salaries paid in 1961, based on census information, are estimated to have been \$120,000 and subsequent data indicate that this has since risen to an estimated \$160,000 in 1964.

A number of Edmonton-based insurance agents advertise in territorial newspapers with notations that they periodically visit such spots as Hay River and Yellowknife, from which it is evident that there is insufficient insurance and auxiliary business to encourage the establishment of branch or separate offices in the Territories. At present, there are at the most four or five people in the Northwest Territories who gain all or part of their livelihood from the insurance and real estate business.

The banks plan no heavy capital investment in bank-owned facilities in the Northwest Territories in the near future and they also report they have no immediate plans for opening new branch offices. No substantial growth during the next five years in these services is anticipated. Statistics show that there is a branch bank for every 1,700 Northwest Territories residents compared to one branch for every 3,100 people in British Columbia and 5,400 in Newfoundland. The existing banking facilities appear to be adequate to handle a substantial population increase as long as most of the increase occurs in existing centres of activity. It is possible that small branch banks may open at the site of isolated economic activities such as a new mine site. No finance companies are listed as having offices in the Northwest Territories. Apparently, consumer credit is handled through either the local banks via the merchants, the merchants via the financial institutions in the provinces, or by the consumers dealing directly with these institutions and the local banks. Limited data indicate that the bad debt experience on personal loans in the Northwest Territories is either the same or better than in the provinces.

No real estate mortgage firms have offices in the Northwest Territories but undoubtedly they finance a number of homes each year through their southern offices. The Central Mortgage and Housing Corporation is active in the Territories but all its business is handled by its Edmonton office. The Industrial Development Bank is also active but maintains no office in the Territories.

Religious Organizations

According to the 1961 Census, 169 persons (140 of whom were male) were reported to have been employed by religious organizations in the Northwest Territories. Information on

their wages is available for only 82 of these persons. Based on this and other fragmentary data, wages and salaries paid to employees of religious organizations may have amounted to \$550,000 annually over the last few years. Much of this sum is paid to employees in the student residences which are operated by the churches under contract with the Department of Northern Affairs and National Resources. In 1963, there were 128 positions directly related to pupil residences, and salaries for these positions amounted to \$449,000.

Religious organizations play a significant part in the northern economy. Apparently, the cost of northern operations of most religious organizations are sustained only in part by local contributions and there is a net inflow of both capital and operations and maintenance funds. The extent of this flow is difficult to estimate precisely but in recent years it may have approached \$500,000 annually. According to plans of the major religious groups, it is anticipated that over the next few years, capital expenditures will average about \$400,000 annually which is slightly below past levels.

Personal Services

The 1961 Census showed 394 people employed or self-employed in the personal services industry which includes such things as shoe repair, barber and beauty shops, laundries, hotels, restaurants and lodging houses. Approximately 14 per cent of the people in this industry were self-employed. Total income for this group approached \$1,000,000 in 1961. However, payroll data reported to Workmen's Compensation indicate wages and salaries in this area of the economy for 1963 might be closer to \$1,200,000.

Food catering services reached an employment peak in 1956-57, then declined sharply. During the last few years employment has remained relatively stable. Similarly, the commercial laundry industry has been very stable over the last 10 years with little change in either employment or payroll. The picture for hotels and lodges, however, is quite different and has shown substantial growth in recent years. The 1961 Census reports employment of 278 in these businesses which is in excess of the numbers covered by Workmen's

Compensation. The level of individual wages paid in this industry is significantly lower than the average for the Territories as a whole but this follows the general pattern elsewhere in Canada.

The remaining portions of the personal services industry include commercial shoe repair, barber and beauty shops and lodging houses, and provide employment for approximately 100 people. Individual income, with few exceptions, does not exceed \$4,000 per year and most of the people earn less than \$1,000 annually. Available information does not permit an estimation of income for this small group as a whole.

The opportunities for expansion in the personal services industry range from good to poor. If tourism and business travel continue to increase the prospects for additional hotels, lodges and restaurants are fairly good. Nevertheless, much of this business is seasonal and to maintain year-round operation and employment, most establishments must rely upon substantial winter patronage by the local population. Therefore, the number of new establishments will depend, at least in part, on the general rate of increase in the permanent population. Expansion of establishments such as beauty parlors, barber shops, funeral parlors, will be slow and will depend upon the growth, wealth and concentration of population. Their growth may therefore be expected to be steady but not spectacular. The new community of Pine Point and the increased rate of growth at Hay River will offer opportunity for greater expansion in these centres.

The remaining services which are classified by census definition as part of the community, business and personal services industry, including such things as entertainment, recreation, and services to business management, are mainly of an engineering and scientific nature. Northern entertainment and recreational services offer little in the way of full-time well-paid employment. The number of persons employed has fluctuated considerably in the past and this pattern will undoubtedly continue. The engineering and scientific services on the other hand employ persons having high educational levels, and individual incomes of this group are well above the average for the Territories.

Total income of persons employed in all these miscellaneous services in 1961 is estimated to have been \$200,000. Over the next few years, there will be increasing employment opportunities in these services and individual incomes are likely to increase at a slightly higher rate than for most other industries in the Territories.

GOVERNMENT

Federal Government

Government expenditures are the principal force sustaining the northern economy. As nearly as can be determined, all government departments and agencies, excluding Crown corporations, had 1,942 salaried or prevailing rate employees in the Northwest Territories in June 1963. This figure includes 261 armed services personnel. In addition, 415 casual labourers were employed. Total salaries and wages paid to these 2,357 persons in the month of June 1963 amounted to \$690,000. Calculated on an annual basis, their salaries and wages would amount to a minimum of \$9,000,000 exclusive of the value of certain fringe benefits. A reasonable estimate of the annual federal payroll is about 10 million dollars. The principal employing agencies, ranked according to number of salaried employees, are the Departments of Northern Affairs and National Resources, Transport, National Health and Welfare, and Public Works. The Federal Government and its agencies are the largest employers of Eskimos. In February 1965, some 458 Eskimos were reported as being directly employed by federal departments and agencies.

In addition to the full-time employees mentioned above, a large number of salaried and seasonal employees are sent to work in the Northwest Territories each year by various departments mostly during the short summer season. The Departments of Transport, Public Works and Mines and Technical Surveys employ the majority of these. Personal income derived from this type of employment is estimated to be \$1,000,000 to \$1,500,000 but probably less than five per cent of this amount is spent in the Territories. This seasonal activity, however, does generate a large amount of business within the Territories for the hotels, restaurants and other service

industries. Transportation companies undoubtedly receive the greatest benefit from high levels of summer activity.

While no precise statistics are available, federal government employment would appear to represent between 20 and 35 per cent of the employed experienced labour force. Upon this employment is built the basic economic framework of the Northwest Territories and most of the retail trade and service industries.

It is possible that the number of government employees in the Territories will continue to increase at a rate of from five to six per cent per year over the short term. This growth will come with the expansion of the school system and other government services together with the transfer of a number of functions now carried out in Ottawa to civil servants in the Territories. This increase in staff and associated activity will, of course, have a marked effect on the northern economy over the next few years.

Municipal Government

Three municipalities, Yellowknife, Hay River and Fort Smith employ staff. In 1963, the average number of employees, including school teachers, of the two municipalities then in existence, was 38 and wages and salaries for that year totalled approximately \$140,000. Development of more municipal government services in the Northwest Territories would appear probable over the next five years. In the foreseeable future, municipal employment should increase as the existing municipalities grow and others come into being. It may be 25 to 35 per cent higher by 1970.

The DEW Line is, in many respects, the biggest single development in the Northwest Territories and its effects have been profound. After the Canadian government, it provides the largest single payroll of any northern activity. In its build-up it has had a direct economic influence on auxiliary industries and services such as construction, food catering, communication and transportation. However, the DEW Line's economic impact on the overall economy of the North has been and still is far less than its important position as an employer. Most persons employed, except Eskimos, are young males who, if married, are not accompanied by their wives and families. With minor excep-

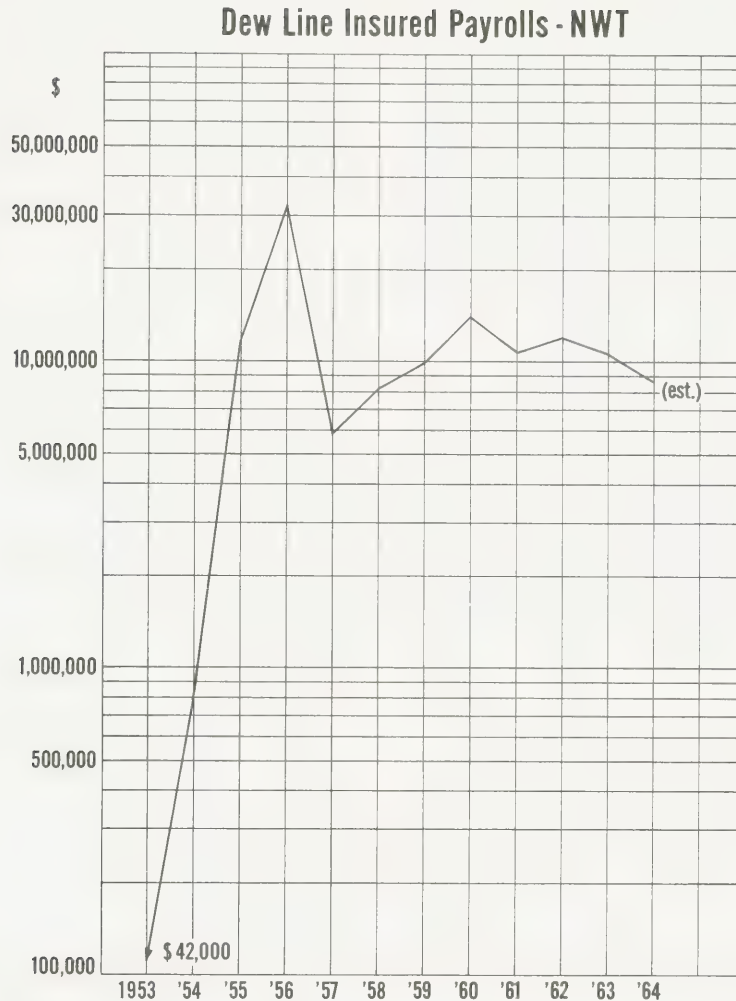


FIGURE 25

tions, their income does not flow through the normal retail channels. Hence, there is no multiplier effect from the DEW Line's payroll on the Northwest Territories' economy and because of the scatter of the Line itself, there is almost no build-up of community life.

According to Workmen's Compensation data, DEW Line operations reached their peak in 1956 (Figure 25), with a lesser peak in 1960. Since then, payrolls have declined by almost 40 per cent. Insured payrolls for 1963 were

10.6 million dollars which dropped in 1964 to an estimated 8.5 million dollars (Appendix XVI). Because of the seasonal activities such as maintenance, the level of employment is difficult to determine. Nevertheless, Workmen's Compensation reported the monthly average of DEW Line employees as 1,000 in 1964 and from this it can be assumed that permanent year-round employees number about 600. In February 1964, 60 Eskimos were reported to be employed on the DEW Line. Very few of these were employed in skilled or semi-skilled capacities.

The trend in DEW Line activity over the last four years has been downward and in the near future (five years) this downward trend will likely continue barring its complete obsolescence by a technological breakthrough. It is not likely that its payroll will exceed \$3,000,000 by 1970. As noted above, however, the slowing down of DEW Line activity will not really have as adverse an effect on northern economic development as might be expected from the size of the operation.

TRANSPORTATION AND TELECOMMUNICATIONS

A description of the nature and extent of transportation and telecommunications in the Northwest Territories is given in Appendix III. The following comments deal with the economic aspects of these industries.

Transportation costs in much of the Northwest Territories are high and could remain so for a number of years. Three factors would seem to be of paramount importance. First, great distances separate the source and ultimate destination of a shipment in comparison with the situation in southern Canada. Second, because of a small and scattered population and a low level of economic activity, only small volumes of traffic move into and within the Territories. Even less traffic moves south. Therefore, except in special places such as Pine Point, the construction of high-capital, low-operating-cost, year-round modes of transport such as paved roads and railroads is impossible to justify on the basis of the economic activity. Third, the seasonal nature of much of the transport system means higher costs to transport operators and hence higher rates to shippers. It also means that northern enterprises must carry high inventories at a considerable cost for storage, insurance and handling. Because of these factors - and many special problems which derive from them - transportation in the Northwest Territories is still at a rudimentary stage of development.

Air Transport

The Department of Transport is the only major operator of civil airports in the Territories. During the five-year period 1958-59 to 1962-63, the Department spent an average of 2.6 million dollars per year on the construct-

ion of airports and 2.2 million dollars on airport operations. Airport revenues were low by comparison, averaging less than 20 per cent of operating and maintenance costs.

On a per capita basis, the cost of providing airports in the Northwest Territories has been very high in comparison with the provinces and even the Yukon. Average capital expenditure per capita for the Northwest Territories during the years 1958-59 to 1962-63 was \$117. In rather marked contrast, the average for the Yukon was \$78 and only \$4 and \$2 for British Columbia and Newfoundland, respectively.

Airlines operating out of the provinces are of far greater significance to the Northwest Territories than internal air transport. For example, the earnings of air carriers whose primary role is to link the Territories with southern Canada are roughly three times as high as the earnings of mainly internal carriers. Passenger arrivals at territorial points from outside the Territories are at least twice as great as arrivals from points within the Territories.

Because of vast distances and a scarcity of year-round surface transport, air cargo operations play a very important role in the Territories. As elsewhere, this role is particularly significant with regard to low weight, high-value goods, goods which are urgently required, and goods which must be moved into areas not accessible by surface transport. A fairly high proportion of the total charter hours flown by larger aircraft in all of Canada are logged by aircraft flown to and from and within the Northwest Territories.

Northern air fares and freight rates are higher than those of southern Canada and in some cases much higher. To fly from Edmonton to Fort Smith costs a passenger almost nine cents per mile; from Norman Wells to Inuvik it costs about 12 cents per mile. By comparison, the Air Canada economy fare between Edmonton and Vancouver (a distance comparable to Edmonton-Fort Smith) is only 6.3 cents per passenger mile. Air freight rates tend to be twice as high as rates in southern Canada and even higher. To ship a ton of air freight from Edmonton to Norman Wells, a distance of 1,100 air miles, costs 45 cents per mile. In comparison, the rate between Toronto and Winnipeg, 941 miles, is 21 cents per ton-mile.

Charter rates tend not to follow this pattern particularly in the case of large, multi-engine aircraft for which rates are usually the same for both northern and southern Canada. However, for aircraft of DC 3 or smaller size, northern rates are, generally speaking, higher. There are exceptions to this on occasion due to relatively severe competition in the field of small aircraft chartering.

Road Transport

The Northwest Territories is far behind the rest of Canada in the development of a basic road network. Only the southern fringe of the District of Mackenzie has felt the impact of any significant road construction to date. In terms of its total area, permanent road mileage is still negligible, being only .927 road miles per 1,000 square miles in 1962. A comparative figure for the Yukon for that year was 9.68 miles per 1,000 square miles, and for Newfoundland and British Columbia, 178 miles and 55 miles, respectively. A comparison on the basis of miles of road per unit of population would, of course, place the Northwest Territories in a more favourable light.

Compared with the provinces, the Northwest Territories does not make a significant contribution toward the annual cost of road construction and maintenance within its boundaries. Only a small percentage of such costs have been provided out of territorial revenues, the bulk is met by the federal government. Highway and road-user charges such as vehicle licence fees and fuel taxes are insignificant in comparison with road costs.

Trucking services are quite well developed to and from the western part of the Territories; they are for the most part extensions of Alberta trucking systems. Communities such as Hay River and Yellowknife have good year-round service while some other places are served over winter roads. Approximately 50,000 tons of freight - mainly northbound - move between southern Canada and the Territories annually. Rates on the Mackenzie Highway, the only road connecting the Northwest Territories with the provinces, tend to be somewhat higher than, for example, Alberta rates, although the difference is not great.

Rail Transport

One of the most significant new developments in transportation for the Northwest Territories is the construction of the Great Slave Lake Railway. It has been built by the Canadian National Railways for the Federal Government at a capital cost of over 85 million dollars, some 20 million dollars of which will be recovered from Pine Point Mines during the initial ten years of the railroad's operation. Some traffic is already moving although the line has still to be brought up to its final standard.

It is still too early to tell what effect this new facility will have on transportation costs. The railway will have only part of the total haul to communities along the Mackenzie River and on the Arctic Coast. Reductions in northern transport costs will depend on such factors as the degree to which the railroad pursues a policy of competing with Mackenzie Highway truckers, on what cost reductions can actually be achieved between Grimshaw and Hay River, and on the proportion which this segment represents of the total haul to northern communities. Good rail-truck competition may well be anticipated because goods moving north will be a back-haul for the railway. The greatest impact should be on that traffic originating in northern Alberta and moving no farther than Great Slave Lake. Traffic originating farther south will be affected to a much lesser extent.

Water Transport

Heavy reliance is placed on water transportation in the Northwest Territories. Because of the existence of extensive inland and coastal waterways, very little expenditure has been required over the years to provide an adequate base for water carrier operations. Some wharves have been built, some dredging has been done, but such items have required only a relatively small annual expenditure. The two main areas served are the Mackenzie Valley and Arctic Coast in the west and the Arctic Islands in the east.

The volumes of cargo moved by tug and barge on the Mackenzie system within the Northwest Territories range from 90,000 to more than 100,000 tons annually. Slightly more than half of this has consisted of petroleum products moving north and south from Norman Wells. Virtually all of the remainder repre-

sents goods moving into the Northwest Territories from the South. Freight volumes moving out of the Northwest Territories via the Mackenzie system are only a fraction of northbound traffic at the present time.

General commodity rates on the Mackenzie system fall sharply as length of haul increases up to about 500 miles and then taper off over longer distances. For a haul of 100 miles a typical rate might be 21 cents per ton-mile; for a haul of 500 miles, 9 cents a ton-mile and for a haul of 1,000 miles, 6.7 cents a ton-mile.

The Department of Transport acts as the coordinator of freight moving into the eastern Arctic and is the main operator (through the Canadian Coast Guard, which is responsible to the Minister of Transport) of sealift vessels. Freight movements have increased greatly during the past few years, for example, from less than 30,000 tons in 1956 to about 110,000 tons in 1961.

Dry cargo rates per ton-mile vary with latitude, those for destinations lying north of approximately the 70th parallel being higher than rates to more southerly points. Thus cargo moves from Montreal to Eskimo Point, Coral Harbour, Baker Lake and Repulse Bay (approximately 61 degrees N to 67 degrees N) at rates which range from 3.1 to 3.5 cents a ton-mile. Cargo moving to Arctic Bay, Resolute Bay, Grise Fiord and Eureka (approximately 73 degrees N to 80 degrees N) moves at rates ranging from 4.8 to 5.1 cents per ton-mile.

Based solely on economic criteria, not too much change should be expected in northern transportation cost during the short term. The Great Slave Lake Railway will have come into full operation and a few more roads will have been built, but a vast part of the Northwest Territories will continue to rely on seasonal water transport and air transport. Reductions in cost could be achieved if larger air consignments make it possible to operate larger aircraft or if handling methods can be radically altered on water routes.

Futuristic modes of transportation such as the cargo submarine (and perhaps the hovercraft) do not enter into a short term consideration. Indications are that the cargo submarine will require very large volumes of traffic to

make its use economic. Recent intensive research has shown that solids pipelines may have some application in the long term. A reduction in northern transport costs depends ultimately on an increase in economic activity, a diversification of the economic base and population growth.

Transportation as an industry ranks fifth in employment and wages and salaries paid in the Territories. The Workmen's Compensation returns for 1961 show that insured payrolls for 490 workers in transportation were 1.5 million dollars. This amount does not include personnel and payrolls of the Northern Transportation Company. Total personal income earned by persons working in transportation in 1963 is estimated at 2.5 million dollars, and close to 1,000 persons were employed during the peak period of that season. Indications are the 1963 figures are about 10 per cent below the peaks established in 1958 and 1959. Because of the seasonal nature of this industry and the fact that a number of transportation employees are based in the provinces, the net effect on the northern economy of this large payroll is not as great as the amount would seem to indicate.

Employment in transportation is expected to decrease slightly during the next two or three years due to the take over of the Yellowknife Transportation Company by the Northern Transportation Company and a decrease in the activity on the DEW Line. Theoretically, at least, more efficient operation should result from the amalgamation of services provided by the two transportation companies but the net effect on employment is difficult to determine until after at least one year's operation. The Great Slave Lake Railway will probably employ a number of persons at Hay River and it is possible that auxiliary services to the rail line operation may also build up there. After an initial period of adjustment, it is anticipated that employment will stabilize between 1968 and 1971, but that wages and salaries, on the other hand, will increase at about the same rate as the national averages.

Telecommunications and Broadcasting

The term "telecommunications" is used broadly in this economic treatment and is intended to cover a range of services. These can be grouped according to whether they are publicly or privately provided.

There are a number of government telecommunications systems operating in the North. As is usually the case, these are of a kind which cannot break even on costs but which are nevertheless deemed to be necessary for the achievement of social and other broad objectives. The most extensive of these is operated by the Department of Transport. Its purpose is mainly to provide for air and marine navigation and for the transmission of meteorological data. However, it operates message services where these are not available commercially. During the five-year period from 1958-59 to 1962-63 the Department of Transport spent an average of just over one million dollars a year to provide various new facilities and replace and expand existing ones.

In the sphere of northern radio broadcasting the Canadian Broadcasting Corporation has invested about half a million dollars to date in its northern service, which covers the Territories and the northern parts of the provinces. The annual cost of operating the Northern Service is in the order of 1.2 million dollars. The total represents about one per cent of the total operating budget of the Canadian Broadcasting Corporation. At present, the service has about 52 field positions, and 1964-65 salaries and wages to the field staff amounted to \$251,000.

Commercial telecommunications in the western Arctic - principally the Mackenzie Valley - are provided mainly by Canadian National Telecommunications, and those in the eastern Arctic are provided by the Bell Telephone Company. These private services such as telephone, telegraph and telex may not be meeting their full cost now but they stand a chance of doing so within the foreseeable future.

Capital investment in commercial telecommunication facilities serving the Northwest Territories is estimated to be 33.6 million dollars. In addition, projects under construction in 1965 have an estimated value of 2.3 million dollars. Employment is provided for about 150 persons and annual payroll, including allowances, is believed to be approximately one million dollars. According to Dominion Bureau of Statistics data, 1963 employment in commercial telecommunications in just the Northwest Territories is about 50 persons. Annual salaries and wages for these amounted

to between \$300,000 to \$400,000 and since that time the number of communications employees located at Hay River has increased considerably.

GENERAL ECONOMIC INDICATORS

Value of Production

In 1961 the total net value of production for the Northwest Territories is estimated to have been slightly less than 24.3 million dollars or \$1,055 per capita, which approximates the national average for the country.* The weakness in this estimate stems from the lack of a comprehensive picture of the construction industry. Elimination of the net value of construction from this estimate markedly improves the reliability of the statistic and enables more valid comparison with provincial data. Thus in 1961 the net value of production less the net value of construction for the Northwest Territories is estimated to have been 19.2 million dollars or \$833 per capita. In British Columbia and Newfoundland the similar figures were \$905 and \$371, respectively, while the national average was \$853. These data are compared in Figure 26. A breakdown of the net value of production into the various components cannot be given because of the confidential nature of certain data.

The magnitude of the per capita net value of production in the Northwest Territories, even when construction is excluded, is quite surprising. The non-goods producing sectors of the economy including government, transportation and the service industries represent a much larger proportion of the economic activity in the Northwest Territories than they do in any of the provinces. Therefore, the per capita figure is diluted by a considerable extent.

In 1962, net value of production, excluding construction, increased by one per cent; in 1963 it declined six per cent and although the

*The net value of production is the value of shipments, or in some cases the value of production less the cost of materials, supplies, fuel, and electricity. Net value of production refers to only the goods-producing industries and covers the primary industries, manufacturing, power generation, and construction.

Per Capita Net Value of Production, 1961 Northwest Territories and selected provinces

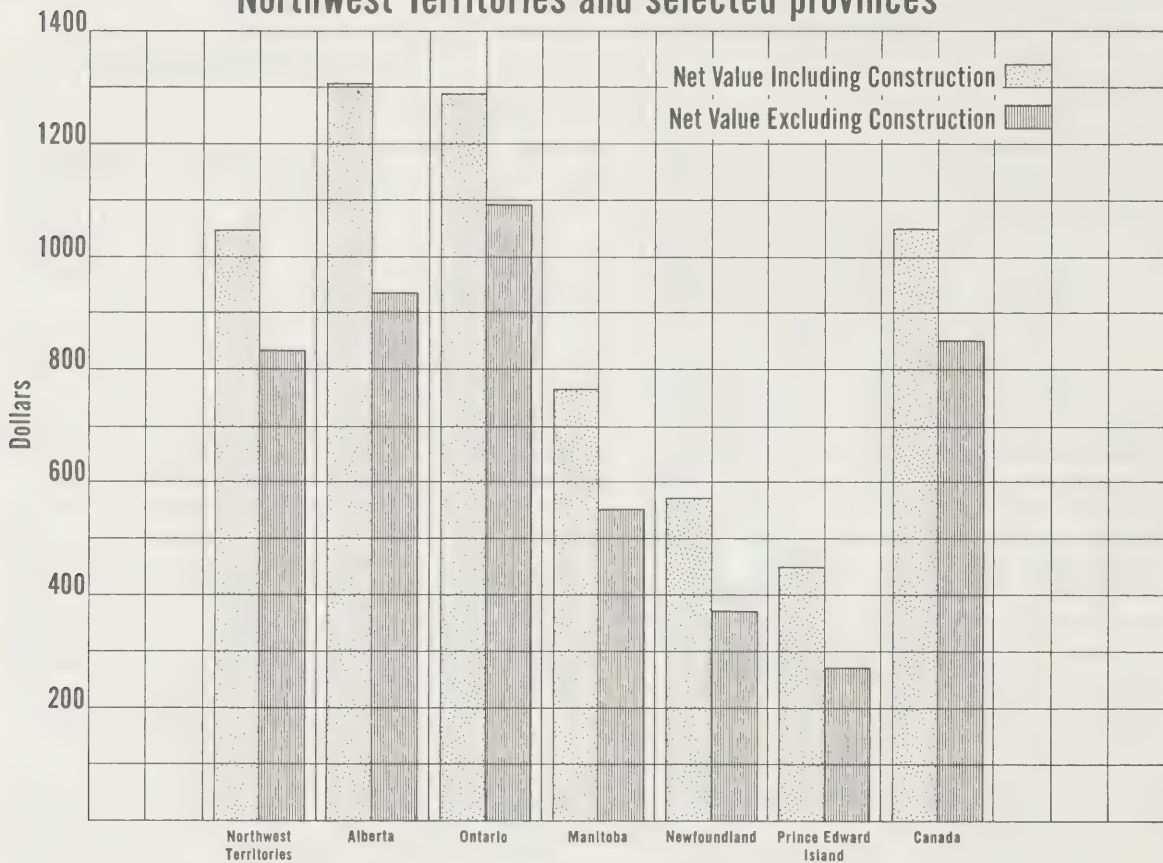


FIGURE 26

data are not complete, a five per cent increase seems evident for 1964. The drop in 1963 was due to a lower value of mineral production and electric power generation which was partially counter-balanced by increases in the value of furs and manufacturing. The 1964 increase reflects a rise in the value of mineral production.

During the next few years, the net value of production for the Northwest Territories will rise sharply as production from the Pine Point Mine takes effect. The exact extent of this

increase cannot be predicted without more factual data on the costs of production at the mine. However, based on the experience of other mines, it is possible that the Pine Point operation alone may increase the net value of production for the Territories by 75 to 90 per cent. The magnitude of this increase will tend to obscure advances and declines in many of the other goods-producing industries. On a per capita basis, the Pine Point operation will be very noticeable since the mine will not create employment relative to its net value of production.

Unless more goods-producing industries develop in the Territories, the net value of production will stabilize at the new levels between 1968 and 1971.

Personal Income

One of the most elusive figures, yet one of the most important from the standpoint of this analysis, is personal income. National Accounts report that in 1963 personal income for both the Yukon and Northwest Territories combined was 52 million dollars or \$1,333 per capita. Unfortunately, there is no break-down for personal income between the two Territories from that source. Nevertheless, the amount this statistic changes from year to year should give an indication of growth in personal per capita income for the North in relation to Canada as a whole. Since 1959, per capita personal income in the Northwest Territories and Yukon has risen 10.5 per cent while the national average increased 16.5 per cent. Comparable figures for Newfoundland and British Columbia are 25 per cent and 11.3 per cent, respectively. It is possible that the Territories' lower than average increase in per capita income is due in part to a higher than average increase in the non-working population. However, the fact remains that the rate of change in per capita personal income in the North has lagged behind a good portion of the rest of Canada and has averaged only about two per cent per year in the last few years. Inflation during the same period has averaged about one per cent per year, leaving a net gain of one per cent per year.

In order to build up the statistical base for personal income for the Northwest Territories, extensive searching and estimating was required. Therefore, the data contained in this section and the tables are open to the usual questions and qualifications but they are as accurate as it is possible with the information available. Total personal income in the Northwest Territories for 1963 is estimated to have been 35.4 million dollars. Appendix XVII contains some of the details and gives a brief outline of the procedures used in developing this statistic.

It is recognised that an estimate of per capita income, or total personal income for the Territories as a whole, would be meaningful only if it could be broken down by ethnic

groups (Figure 27 and Appendix XVIII). Appendix XIX and Figure 28 give information on income by source for the Indian population. These data are based on a survey carried out by the Department of Citizenship and Immigration, and do not appear to cover the entire registered Indian population. The data clearly show that 28 per cent of Indian income is derived from payments under social programs such as family allowances, old age security, social assistance, and treaty payments. Another 30 per cent is obtained from skilled and unskilled labour. Based on these and other data, total personal income of the registered Indian population for 1963 is estimated to be 2.76 million dollars or about \$510 per capita.

The Eskimo housing survey carried out by the Department of Northern Affairs and National Resources in 1964 for the Keewatin and Franklin Districts shows per capita cash income of Eskimos to be about \$339 and \$297, respectively. Area economic surveys carried out in 1961 and 1962 for selected points in the Keewatin District list Eskimo family cash income as ranging from \$1,182 to \$1,921 or about \$300 to \$450 per capita. Data on Eskimo income for the Mackenzie District are not available but an area economic survey carried out in 1962 placed family income at \$3,100 and \$485 per capita for Tuktoyaktuk. It is estimated that the personal cash income of the Eskimo population in the Northwest Territories was 4 million dollars or \$426 per capita in 1963.

Income in kind (non-purchased meat and fish consumed) is estimated to be valued at \$200 to \$300 per capita. The proportion used for dog food cannot be estimated with any certainty since it varies greatly from settlement to settlement. However, sparse information indicates it may run as high as 40 to 50 per cent of the total.

The per capita income of whites in the Northwest Territories is estimated to be \$2,922 in 1963. This estimate of non-native per capita income is almost 70 per cent above the Canadian average and about 45 per cent above that for Ontario, the province with the highest reported per capita income in Canada. The relatively high per capita personal income of this group can be explained by three circumstances. First, the structure of the population of the Northwest Territories, with its high proportion of single working males, is

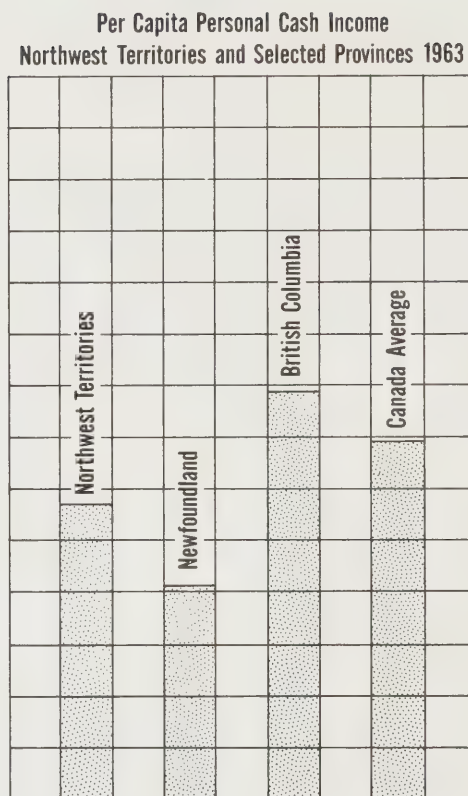
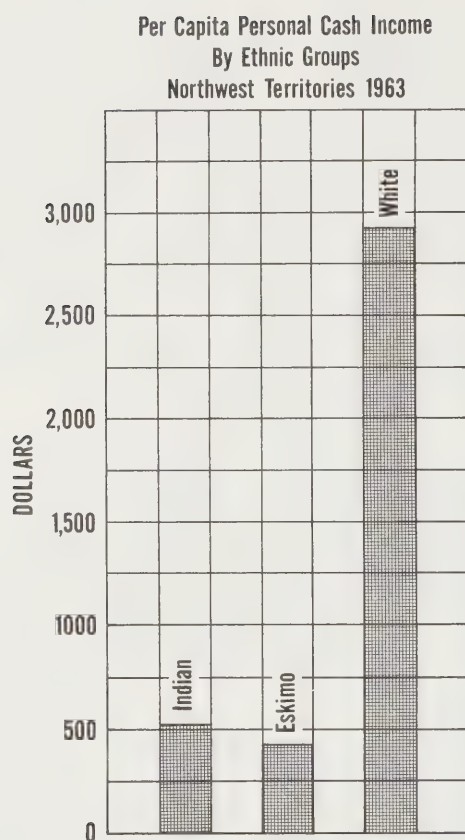


FIGURE 27

completely different from that of the provinces. Second, the Northwest Territories has a high proportion of working married females, and third, premium wages are paid in many industries in the Territories. All three factors tend to inflate the per capita income in relation to the national average.

Forecasting change in the personal income of any small group of people is, in most circumstances, largely guesswork. In the case of the Indians and Eskimos, it is estimated that there will be a total gain in personal income of seven per cent per year. The anticipated population increase will dilute this growth in total income and the net gain will be in the order of three per cent per year. On this basis, per capita income of the Indians and

Eskimos would be about \$600 and \$500, respectively, in five years' time. Since very little information is available on the past changes in personal income for the native population, it is difficult to place reliability in these estimates. In the Tuktoyaktuk area, where comparison of data is possible, the change of personal income from 1957 to 1962 has maintained an increase of about 10 per cent per year in the income of Eskimo families. This comparison is based on data from two independent surveys but it is not known whether the survey techniques used were comparable. Furthermore, there is a possibility that statistical comparisons between these two surveys will not give meaningful results because of shifts in population. Apparently, much of the increase between 1957 and 1962 in this area was due to the DEW Line and other permanent employment.

Percentage Distribution of Indian Income by Source Northwest Territories, 1964

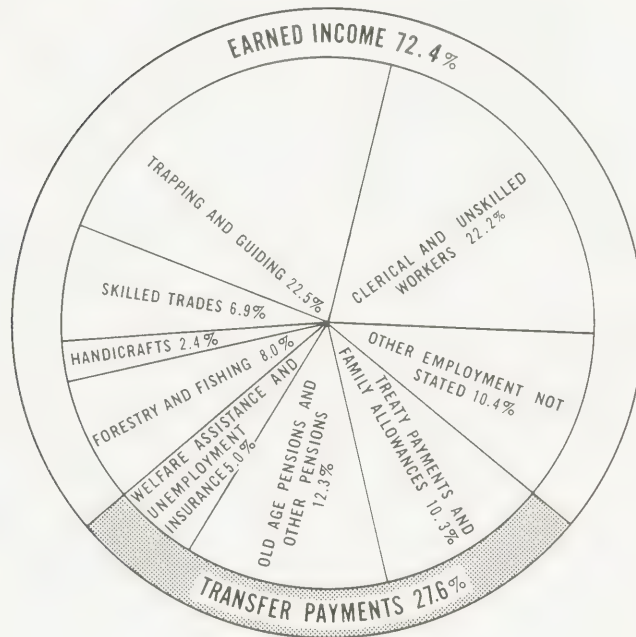


FIGURE 28

Inherent in the base for present white per capita income are several highly volatile factors which can significantly influence personal income five years hence. Assuming that there will be a gradual reduction in single male employment in industries like the DEW Line, that newly employed persons in the Territories will usually be accompanied by their families, and that the services available to the territorial residents will encourage longer residence of family units, personal income of this group is not expected to increase as fast as the national average. If the national figure moves upward at four per cent per year, their per capita income is likely to increase at about three per cent. On this basis, their per capita income will be about \$3,500 in 1970.

Taxation

On the whole, the residents of the Territories escape many of the taxes well known to Canadians living in the provinces. Property taxes, including their counterpart, occupancy or rental taxes, which are the major financial base for all municipal and county activities, are levied in only four communities in the Northwest Territories. Provincial retail sales taxes, which are charged in eight of the ten provinces and range from three to six per cent, are not levied in the Northwest Territories.

Also, the territorial residents pay less tax to operate their personal motor vehicles than do residents in any of the provinces.

Motor fuel in the Northwest Territories is taxed at 7.5 cents per gallon, or between one-half to one-third the tax levied in the provinces. For most motor vehicles, the licence fees are considerably less than those charged in the provinces.

In contrast with most provinces, there are no amusement, special alcoholic beverage, insurance, tobacco or long-distance telephone call taxes in the Northwest Territories. The one significant tax not levied in most provinces, but charged in the Territories, is a fuel oil tax which is now 3.5 cents per gallon. British Columbia and Newfoundland also tax fuel oil at the rate of one-half cent and one cent per gallon, respectively.

A comparison of property tax rates in the four communities having this tax with those of similar communities in the provinces is not possible because of the widely varying means of assessment. Furthermore, a comparative picture is complicated by the fact that municipalities in the provinces do not have uniform procedures for handling special assessments and flat-rate charges for such things as sewers, water, roads, businesses and rents. As will be described later, many of the services provided for residents of the Northwest Territories and which are normally paid for through municipal and provincial taxes, are heavily subsidized by federal government expenditures or through federal grants to the Territorial Government.

Taxation of Personal Income

The only form of taxation common to all Canadians and around which any usable comparative analysis can be built is federal taxation on personal and corporate income.

Personal income taxes paid by residents of the Northwest Territories in 1962 yielded \$2,011,000 on a total reported income of \$20,371,000. It must be emphasized that this latter amount represents only a partial measure of the total personal income. However, it is considered to be a good measure of level of change in personal income - hence economic activity - from year to year. Furthermore, it is useful in making comparisons between the various regions.

The average incomes reported on taxable returns for the period 1957 to 1962 are plotted

on Figure 29 for the Yukon and Northwest Territories, British Columbia and Newfoundland and are based on the information given in Appendix XX. The individual taxable income in the Northwest Territories has averaged about 22 per cent higher than that of Newfoundland, but only seven per cent higher than that of British Columbia for the last few years. Since income tax is progressive in nature, the average amount of tax paid by residents in the Territories is well above that for British Columbia and Newfoundland (Figure 29).

Conclusions concerning the level of affluence of the tax-paying population of the Territories is further reinforced by Figure 30 which shows the distribution of taxpayers by income classes. The Territories have a much smaller proportion of their tax-paying population at the lower end of the scale, incomes less than \$5,000, than British Columbia or Newfoundland. The reverse pattern is very evident in the middle income levels of \$6,000 to \$9,000. Particularly significant are the figures for the Northwest Territories in the \$7,000 to \$9,000 income classes where the proportion of taxpayers with these incomes is twice as great as that in British Columbia. As can be seen from the figure, the structure of the tax-paying population of the Northwest Territories is not at all similar to that of British Columbia or Newfoundland. Both Territories have a small proportion of their taxpayers in the low income group and a much greater proportion in the middle income groups. The proportion in the higher income bracket (\$10,000 plus) in the Territories is less than that in either British Columbia or Newfoundland. This reflects the scarcity of highly paid industrial managers, financiers and professional self-employed.

One of the more surprising points brought out in the analysis of taxation data is the relatively high proportion of people in the Territories who pay income taxes. In 1961, taxable returns represented 68 per cent of the Northwest Territories white population over 20 years of age, while in British Columbia the percentage dropped to 49 and in Newfoundland to 25. The validity of the assumption that most Indians and Eskimos do not file taxable returns can be questioned but all evidence points to this number being minimal. The high propor-

tion of the Northwest Territories population paying income taxes can be explained in part by the high ratio of males to females (62 per cent of the white population is male) with

much of the imbalance occurring during the working age groups. Apparently, there is also a large proportion of the female population in the labour force.

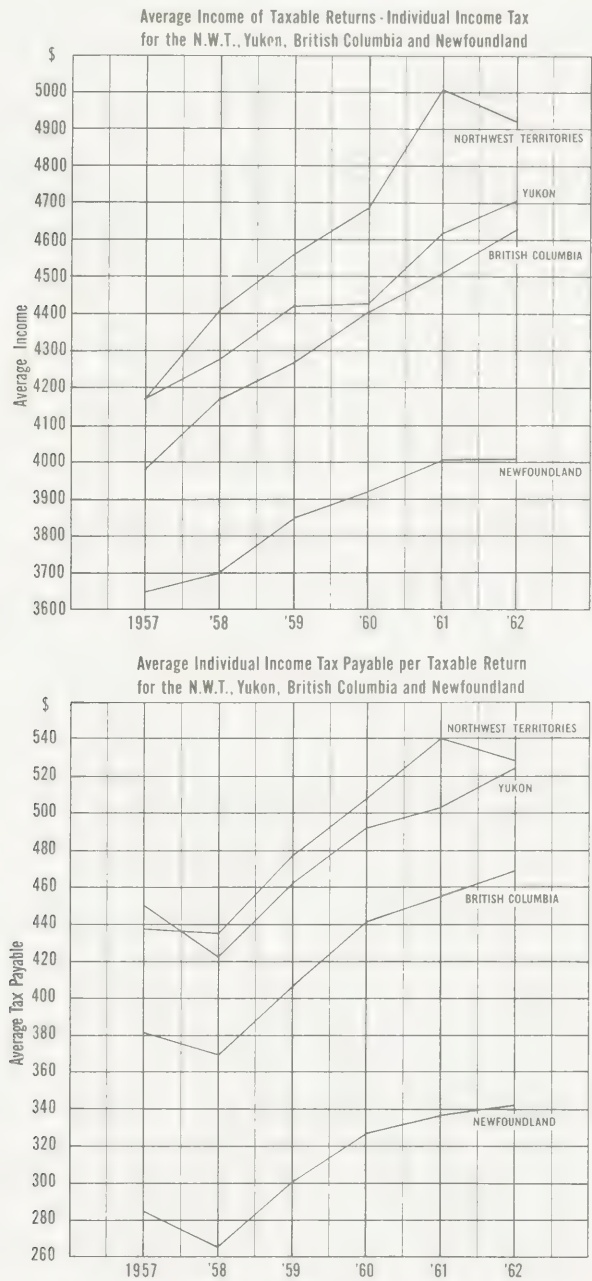


FIGURE 29

Distribution of Taxable Returns by Income Size Classes, Individual Income Tax - 1962

FOR NWT, YUKON, BRITISH COLUMBIA AND NEWFOUNDLAND

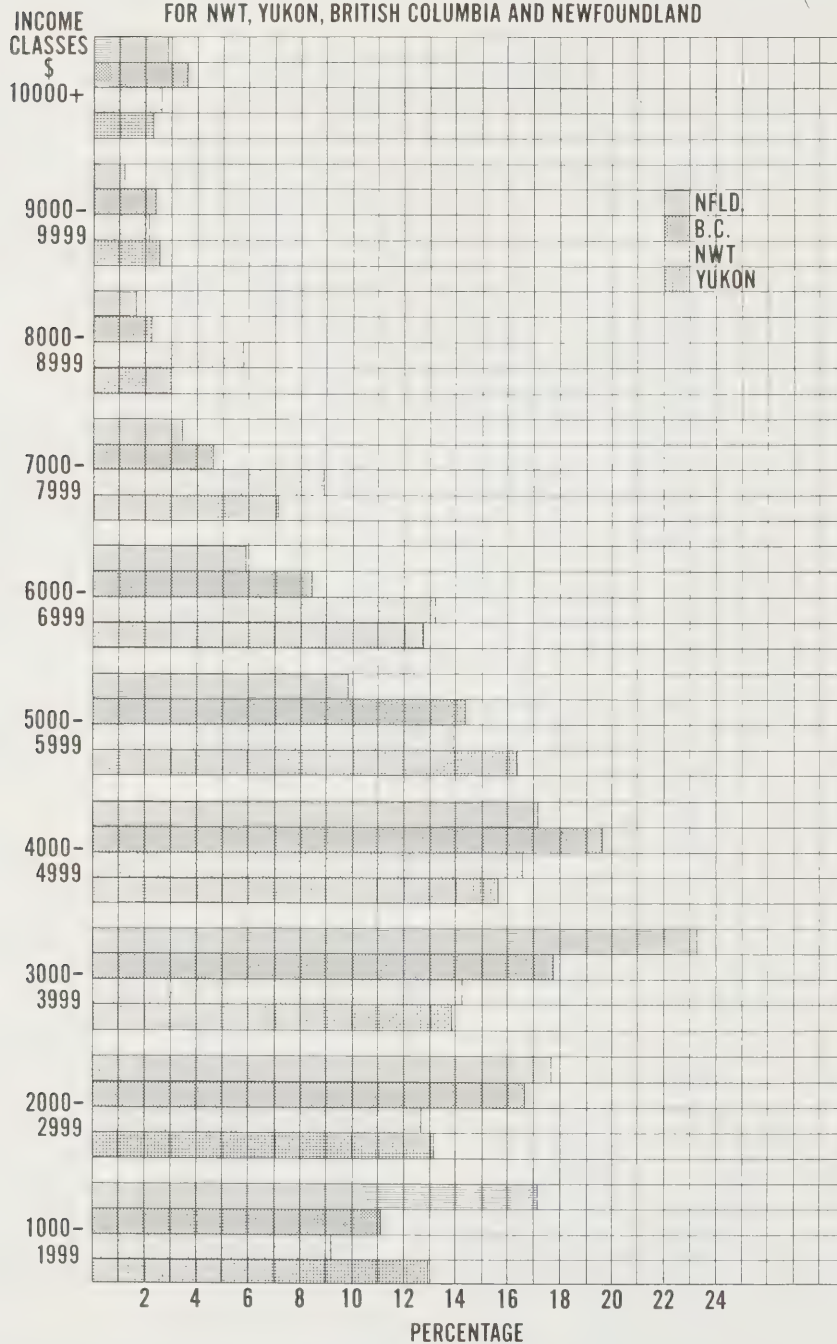


FIGURE 30

Total income reported on taxable returns for the Northwest Territories increased by 77 per cent from 1957 to 1962 showing a markedly different pattern than that in British Columbia, Yukon and Newfoundland (Figure 31). For British Columbia, the rate of growth has been

relatively stable, averaging about four per cent per year. The sharp rise in total income reported for residents of the Northwest Territories is due to a 48 per cent increase in the number of taxpayers and a substantial increase in individual income.

Total Income Reported for Taxable Returns - Income Tax for N.W.T. Yukon, British Columbia and Newfoundland 1957-1962 1957=100

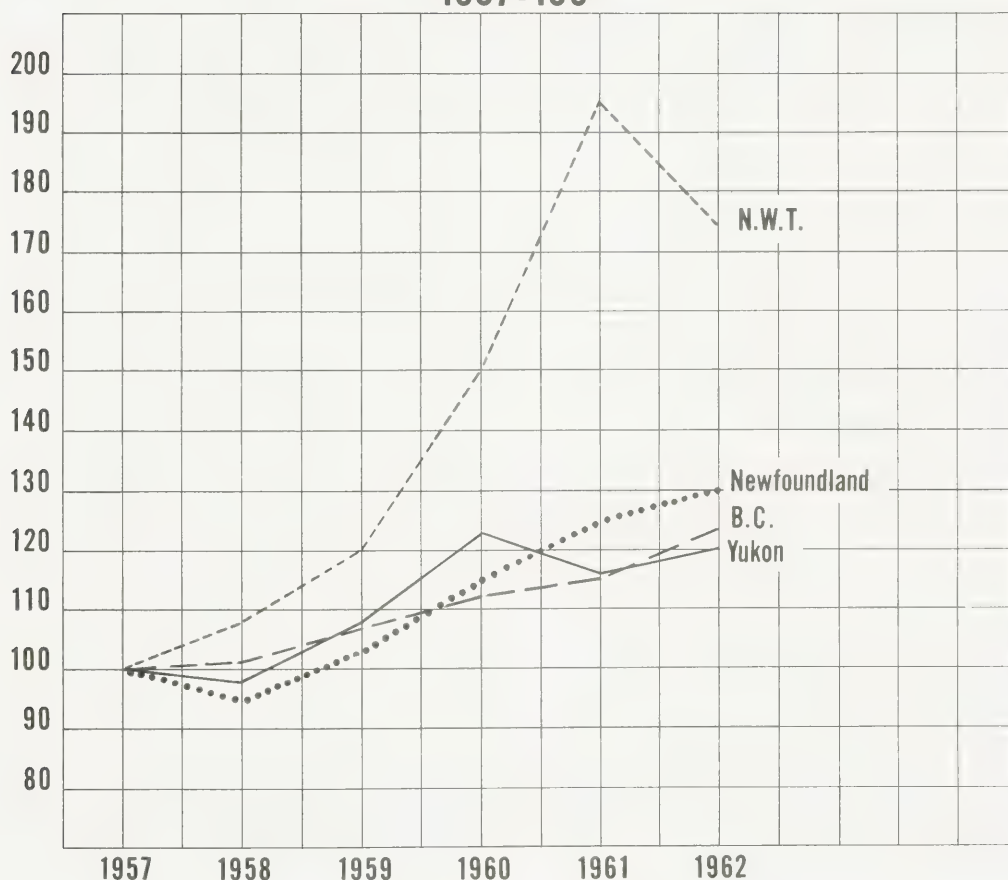


FIGURE 31

Corporate Taxable Income

In 1962, the corporations in the Northwest Territories reported a taxable income of 3 million dollars which represents 0.08 per cent of the total for Canada. Since 1957, taxable income has ranged from a high of 5.9 million dollars in 1958 to the low of 3 million dollars in 1962. The major portion of 3 million dollars (2.2 million) was attributed to construction and manufacturing and this pattern has been more or less consistent over the last six years. Appendix XXI contains the detailed data for the Yukon, Northwest Territories, British Columbia and Newfoundland.

Corporate taxable income, besides being a measure of profits, is a fairly good indicator of economic viability and diversification. Upon it is based an extremely important segment of Canadian taxation and it also provides an effective means for comparing economic activity with that of other areas. The best means of doing this is on the basis of per capita corporate taxable income. Figure 32 shows the per capita corporate taxable income for the 10 provinces and the Yukon and Northwest Territories. Although population data from the 1961 Census were used in conjunction with 1962 corporate income data, the effect of varying population growth rates over the one year period should be minimal and in all likelihood would not change the per capita figure by more than a few dollars. The Northwest Territories ranks seventh in per capita corporate taxable income when total population is considered. Because both the Yukon and Northwest Territories have a much higher proportion of native people to total population than the provinces, non-native per capita corporate taxable income was calculated and the results also shown in Figure 32. This calculation throws new light on the picture although it makes very little difference in the case of the Yukon Territory. In contrast, the picture of the Northwest Territories is radically different with non-native per capita corporate income surpassing that of Ontario by some \$70. The use of the white or non-native per capita data for comparative purposes is probably more realistic since most of the native population is seldom directly associated with the industrial complex.

According to the Department of Finance, corporations in both the Yukon and Northwest Territories paid approximately \$2,700,000 in

corporate income tax for the 1961-62 fiscal year. Allocated proportionately between the two Territories on the basis of taxable income, this would mean about \$750,000 and \$1,950,000 were received from the Yukon and the Northwest Territories, respectively.

The problems of using taxable corporate income as an economic indicator or as a basis for comparison immediately become apparent. Principal among these is the problem of having a relatively small economy with economic activity concentrated in very few fields. Mining, which is the most important industry in the private sector of the Northwest Territories and which in Canada has been granted some of the more lucrative taxation concessions, shows up as a poor source of tax dollars. Nevertheless, the per capita comparison between British Columbia and the Northwest Territories should be valid since in both cases, for 1962, 10 per cent of taxable income came from mining operations.

Capital Flow

Capital as a factor of production is an essential requirement for northern development but the economy of the Territories is so embryonic in structure that it is impossible to generate either production or social capital in other than minute quantities. Therefore, if development is to take place investment funds must come from southern Canada or other affluent countries. In round numbers, the flow of funds from the federal treasury through various government departments for capital projects in the Territories in recent years amounts to about 15 to 18 million dollars annually, three-quarters of which can be described as social capital. Principal participating departments are Northern Affairs and National Resources, Transport and Public Works. In addition, certain Crown corporations and federal agencies also provide funds for specialized types of capital projects. It is impossible to estimate total government capital expenditures in the Territories since funds for such things as ships and aircraft used for northern service, aerial photographs and maps, for example, are for the most part spent in southern Canada, yet they represent a very real capital cost of northern development. Federal Government accounting practices also tend to hinder accurate estimation of capital funds spent because federal salaries are not

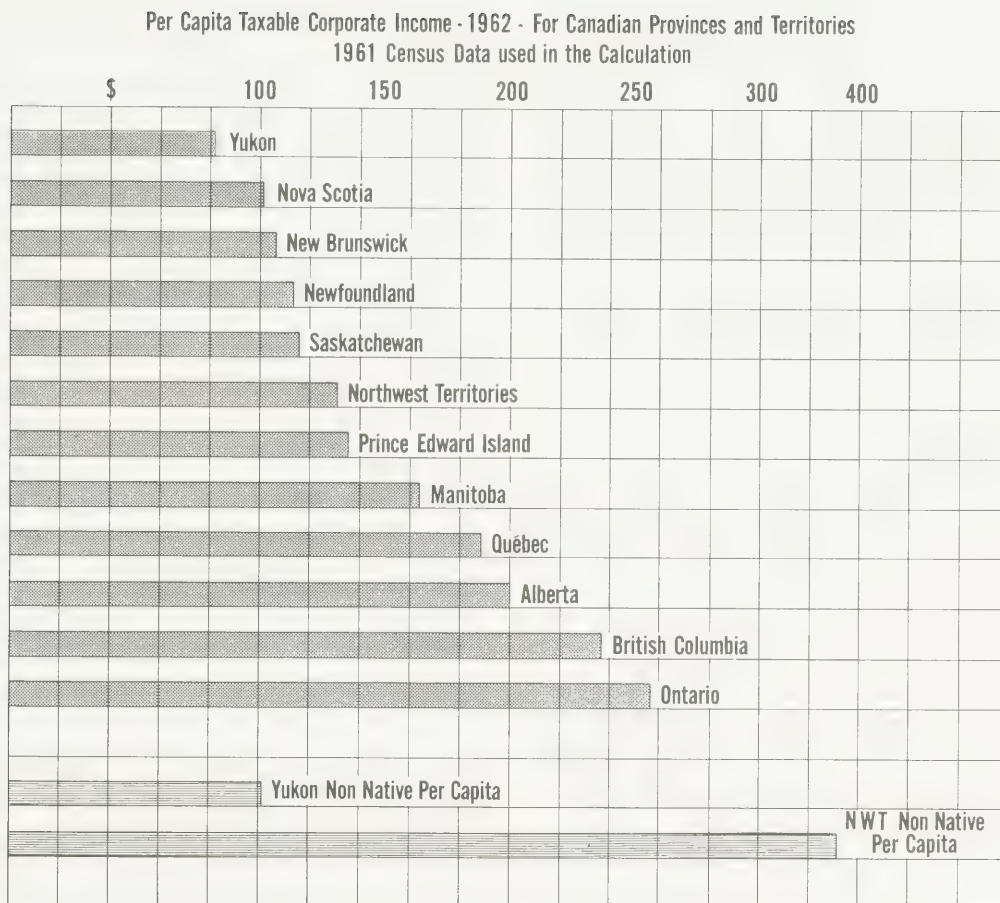


FIGURE 32

designated to individual capital projects. Indications are that the peak flow of capital funds into the North was reached in the period 1958 to 1961 when about 20 to 22 million dollars annually were spent.

The extent of the investment of a military nature in the form of the DEW Line made by the United States cannot be estimated from available data. Nevertheless, this project was the most costly venture ever undertaken in northern Canada and its cost exceeded by many times the total non-military investment in the Territories.

The flow of investment funds northward in the private sector is for the most part also

obscured by accounting procedures. The direct average annual flow by both government and private sectors over the past few years may have ranged between 30 and 50 million dollars. The shortcomings of this estimate must be emphasized. Excluded from this averaged direct capital flow are most expenditures for such things as moveable equipment, which is purchased intact outside the Territories, and repairs and maintenance on government facilities which are actually capital expenditures. An accurate estimate of total annual investment is impossible with available data. However, assuming for comparative purposes that the above figure reflects a reasonable assessment of capital flow, then the per capita capital expenditure in the Northwest Territories over

the past few years is about twice that occurring in Alberta and British Columbia and may be about five times that in Newfoundland.

The outward flow of capital from the Territories is relatively small. A few of the mining concerns pay dividends and in some cases have used accumulated surpluses for investment in mining ventures outside the Northwest Territories. Given the much higher than average per capita income for the white people, there must be an accumulation of liquid assets by some individuals living in the Territories. More than likely, part of this flows south through normal channels such as insurance companies, banks, and stock exchanges for investment in Canadian business. The actual extent of the southward migration of capital funds probably represents less than five per cent of the northward movement.

During the next five years, total capital flow into the Territories should average near the levels of the past five years. Private investment is expected to drop now that the Pine Point Mine and the railway are for all practical purposes completed. Increased government investment under existing and proposed programs for housing, roads and schools will probably offset the decline in the private sector leaving little change in the total. The big question in capital flow concerns the Baffin Island iron ore deposit. If this ore body is developed within five years, the above forecasts of capital investment will need serious revision.

Per Capita Income in Economic Growth

The section on population emphasized the high birth rates of people in the North. This fact has importance for at least two reasons. First, from an administrative standpoint, there is the need for accurately anticipating school classroom requirements. If the residents of the Territories were required to bear a normal share of the cost of education, a second problem would come from the disproportionate financial burden of furnishing these facilities where there is an unnatural age group distribution. In most communities, a fair portion of the educational tax burden falls on persons who are past the child-bearing period of life and whose grown children are not now using the schools. In the Territories, this group of persons is not present in the normal proportion so that the full burden would be thrust on a fairly narrow group of people.

The high birth rate does not seem to have a material effect on per capita income. Statistics show that although the average size of families in the Territories is above the national average, it is significantly lower than in Newfoundland and is about the same as in New Brunswick. Income levels of the non-native group in the Territories are much greater than in either of these two provinces. It is probably safe to assume that the large families, high birth rates and inflation are more than countered by rising income levels with the result that "real" per capita income of the whites or non-natives in the Territories is at least keeping pace with the national average.

The Eskimo situation is not at all similar to that of the white group. In fact, the description of the Eskimos' plight parallels that of most under-developed countries of the world. Under the white man's influence, the Eskimo as well as people in many other under-developed countries, have been far more successful in reducing death rates than in curbing birth rates or population growth. The renewable resource base of the primitive Eskimo economy is limited in its ability to renew itself and at the same time provide adequate levels of nutrition and income. Apparently, before the influence of the white man the Eskimo population and the resource base can be described as being almost in equilibrium.

The Eskimo population is now increasing at a rate of between three and four per cent per year which, according to statistical data, is one of the highest rates in the world. In Latin America, by comparison the average rate of increase is 2.8 per cent while the United Nations report that the world population is increasing at about 2.1 per cent per year. If these rates continue, the world population can be expected to double in 35 years, that of Latin America in 25 years, and the Eskimo population in about 20 years.

With the Eskimo population increasing at a little over three per cent per year and inflation averaging about one to two per cent per year, a five per cent annual increase in income would do nothing more than maintain the status quo. An annual increase in Eskimo income of 10 per cent per year, which is twice the United Nations target for under-developed countries, is not impossible to obtain but it is apparently almost impossible to sustain for any length of time. It must be remembered that Canada as a

whole has never been able to average this ambitious figure for any period of years. Assuming that a 10 per cent increase in Eskimo income is possible, this would allow a growth rate in annual per capita real income of about five per cent per year. But even at this net rate of increase it would take at least 30 years for Eskimo per capita income to reach the current national level. If, on the other

hand, the net rate of income growth were two and one-half to three per cent, a much more realistic goal, it would take 50 to 60 years to obtain the current level of per capita income for the country as a whole.

Although the Eskimo is used as an example, similar statements could be made about the Indian population.

PART III

SOCIAL ASPECTS AND GOVERNMENT SERVICES

The geographic limits of the Northwest Territories represent the residual area after the more economically viable portions of Canada were formed into provinces. The whole of the Northwest Territories has been treated as a single political unit largely for administrative simplicity yet its residents vary widely in their ethnic background and social conditions. These differences in turn present serious problems in devising government services to meet the needs of the people who must depend heavily on government assistance.

SETTLEMENT PATTERNS

The problem of assessing living conditions and patterns in the Northwest Territories as a whole is to find a basis of comparison among the varied and widely scattered settlements. They range from modern urban centres in the Mackenzie Valley to small Eskimo camps in the eastern Arctic. The population elements are the only basic common feature. They include whites and a native population of Eskimos, Indians, or both. The proportions in any one settlement vary considerably according to its location, nature and origin. Villages and towns in the Mackenzie Valley also have their quota of Metis who are officially classified as "whites" but whose place in the social structure is frequently closer to that of the Indians.

Most of the settlements in the eastern Arctic are quite small with a population between 100 to 500 persons, normally including a majority of Eskimos, a trader, one or more missionaries and a limited number of administrative, professional and technical government personnel. Living apart, but attached by kinship ties and trading needs, are groups of Eskimos in camps which are slowly disintegrating as

more people are attracted into the main centres and take up permanent residence. Far-reaching economic and social changes would be necessary to alter the present pattern in the eastern Arctic of widely scattered main settlements with little or no interaction between them.

Frobisher Bay with a population of about 1400 is unique. It began as a military base, became a construction camp, and is now an administrative centre with the largest white population in the eastern Arctic. It also has the largest concentration of Eskimos anywhere in Canada (approximately 900). Frobisher Bay illustrates many of the serious problems associated with the present stage of northern development. The population depends upon a single economic activity. Many more Eskimos have been attracted to the centre than the economic base can support. Higher standards of health, education, welfare and other services have led inevitably to increased dependence upon government. The expectations of the Eskimos continue to outpace their capacity to meet their own needs.

The Mackenzie Valley has a much greater variety of settlement types, ranging from small Eskimo communities on the Arctic Coast, similar to those found in the east, to the administrative and urban centres of Inuvik, Fort Smith, Yellowknife and Hay River. In between, there are the comparatively long established "Fort" towns which have developed around the Hudson's Bay Company stores and the missions. In these, the majority of the population is dependent on trapping, hunting and fishing, as are the small Indian groups living in satellite "bush" communities around them. Long intervals elapsed between the arrival of different population elements in the Mackenzie Valley, but the process of settlement has produced towns and villages not unlike

those in the northern areas of the Prairie Provinces, although Inuvik and Fort Smith are heavily oriented to government activity and are populated largely by government employees.

Throughout the Territories, the most significant trend in living patterns is the movement of the native population into the larger settlements. As in the South, there is a drift from the land to the towns but the social consequences of this movement are much more sharply defined in the small northern communities. In many communities neither housing nor employment is available for these newcomers, who usually have limited education and few employable skills. These circumstances make government assistance in providing housing, sanitary services, training and employment essential.

The larger communities in the Mackenzie Valley such as Yellowknife, Hay River, Fort Smith and Fort Simpson represent the highest level of community organization and urban living in the whole of the Territories. They are also the communities with the largest concentration of white residents. Three of these communities are now incorporated, and property taxes are levied in all of them. There is a strong tendency to make them duplicates of southern towns. In spite of local differences, housing for white residents does not differ greatly from housing elsewhere in Canada. The usual municipal services are costly and require innovations to function in the severe climate.

To a large degree the physical transplanting of these southern features finds a parallel in the lives of the white residents in these larger communities. Most adhere to southern standards and many have strong business and family ties with southern Canada. Some have lived in the North for many years and see their future in their communities as do other Canadians. This, added to the unifying effect of the transportation and communication systems along the Mackenzie Valley, has created a regional identity which contrasts with the isolated community feeling found elsewhere in the Territories.

ETHNIC GROUPS

Social integration of the three ethnic groups, white, Indian and Eskimo, is inevitably a slow process because of the wide differences in

culture, language and physical appearance. White culture dominates the lives of the native people by its superior technology. Frequently there is limited social interaction because of the very real cultural, economic and educational gap separating them. The following description of the ethnic groups in the Territories is, of necessity, of a highly generalized nature.

Whites

There are three essential factors to be noted about the white population in the Northwest Territories. First, most whites, some 62 per cent according to the 1961 Census, were concentrated in five communities in the Mackenzie Valley, Yellowknife, Hay River, Fort Smith, Fort Simpson and Inuvik. The second characteristic is that 43 per cent of the white wage earners are federal employees. The third characteristic is that outside of the Mackenzie Valley, the majority come to the Territories for relatively short periods of time and return to various points in southern Canada after their tours of duty are completed.

In the eastern Arctic the white population is composed mainly of government personnel, Hudson's Bay traders and missionaries, all of whom are representatives of outside agencies. There are few exceptions as opportunities for the settlers are extremely limited by the high cost of establishing and maintaining a small business. Consequently, the white man is almost always a transient with no intention of making a permanent home. Living quarters are usually supplied by the employing agency and there are few inducements for them to settle permanently. This inhibits development of normal community life. The arrival of more and more white families has had a modifying effect because it produces more intensive and varied social activity, but it has not substantially altered the picture.

The majority of the white residents in the Northwest Territories live in the Mackenzie Valley, and more and more regard it as "home". They live side by side with agency and government personnel, Metis and Indians, making a community pattern resembling that of many towns in the northern parts of the Prairie Provinces. Although government and agency personnel are still predominantly southern-oriented, there are opportunities and inducements to settle permanently which are not

present in the eastern Arctic. The larger communities around Great Slave Lake are the preferred locations. Steadily employed whites in this area enjoy the highest level of income in the Territories, a level which compares favourably with that of other Canadians (see Part II, General Economic Indicators). A feature of these communities is the large number of clubs, church and service groups which play an important part in the lives of the residents.

Indians

The Indians in the Mackenzie District have been in contact with white society for many years, but most are still living on its fringes. Most of them are carrying on traditional economic activities with occasional wage employment. A few have taken employment as commercial fishermen, guides, police assistants, handymen and janitors. Now the younger generation is receiving vocational and special training and some are moving into jobs based on their new skills and knowledge.

The government policy is to help the Indians and other native people to fit themselves into Canadian society on the basis of full equality of opportunity. The Indians are still largely dependent on a fluctuating fur trade in many areas, their economic situation has deteriorated and a substantial part of their cash income is derived from government relief, family allowance and pensions. Employment opportunities are limited because the older Indians do not usually possess sufficient skills or education to compete with the white labourer. Language difficulties add to the problem. Disparities in culture, education, living standards and social values present formidable barriers to normal social interaction between Indians and whites.

The traditional way of life is becoming increasingly unattractive to younger Indians who have acquired some education and have accepted some of the values of white culture and are committed to settlement life. Frustration, arising from partial acculturation and limited acceptance into white society, contributes to the growth in anti-social behaviour. However, change predominates and increasing numbers of younger Indians are obtaining better education and level of training in work habits and skills only recently available in the Territories.

Eskimos

The Eskimos are in many varying stages of transition. It was not until World War II that many Eskimos in the eastern Arctic began to have their first continuous contact with southern culture. Although the impact of white culture in the Arctic takes much the same path as in the Mackenzie Valley, the effect is not so widespread, because of limited contact in many locations. While trapping and sporadic wage employment have introduced a partial cash economy, the people in the smaller communities still depend on local resources for most of their food.

Gradually, more of the Eskimos are gathering in the larger settlements seeking wage employment and the full benefit of government programs. This trend is more recent in the eastern Arctic than in the west. The traditional basis of leadership in the small groups was superior ability in hunting, and this is still true in the camps. Education and knowledge of English are becoming increasingly important in determining leadership in the settlements. They give an advantage to the younger generation which can have a disturbing effect on the position of parents who usually have little or no English.

Although concentration brings with it many problems, the provision of much-needed medical services, housing, schools, welfare and co-operative enterprises is making the settlements more desirable places in which to live. A strong pull is also exerted by proximity to missions and the store, social activities and movies. In some centres, such as Frobisher Bay, the impetus came originally from wage employment in connection with construction programs. It is a trend which is likely to continue.

There are some communities, such as Cape Dorset, where group action has been effective in maintaining an acceptable standard of living. Here the Eskimo co-operative has turned native artistic skills to good purpose, and has brought considerable cash into the area. Whatever the disadvantages of life in the settlements, the alternative in the form of life on the land is no longer acceptable to many Eskimos. This precarious way of life deprived the Eskimos of most government assistance and provided an uncertain livelihood. It is only by some degree of concentration that the

benefits of the health, education and other government services can be obtained. The outcome, at least in the short term, may well be a compromise in an effort to obtain the best of the old and the new.

Metis

The Metis form an important element in the population of the Mackenzie Valley. Unlike the Indians, they do not have a special legal status. Those who are steadily employed merge with the whites, but the majority have standards of living and an outlook which makes them almost indistinguishable from the Indian population. There is no means of establishing the number of people who come within this Metis group, however it could be in the neighbourhood of a thousand.

Problems of Transition

The process of transition and the problems that go with it dominate the lives of the native peoples in all parts of the Northwest Territories. The older generation cling to their traditional pursuits and values. Their children, particularly the young settlement people with some education, have accepted the values, and to some degree the culture, of southern white society. Too often they do not have the opportunity, training or ability to gain acceptance or recognition in the white culture group and remain stranded in a middle position.

Language plays a key role in creating opportunities to realize their potential. The white man's language, primarily English in the Northwest Territories, is needed to participate in the new way of life and many of the older native people have not had an opportunity to learn it. This is particularly the case for the majority of the Eskimos. The 1961 Census revealed that out of a total Indian and Eskimo population of 13,233 in the Territories, only 5,358 had a good working knowledge of English. The process of change is moving rapidly but many of the younger people still have an inadequate grasp of English with which to compete in the labour market and gain a secure place in the new society in which they find themselves.

One result of social insecurity is the growth of anti-social behaviour, particularly amongst the younger generation. This occurs primarily

in the larger settlements in the form of prostitution and excessive drinking. Often this is considered to be a peculiarly "native" problem rather than one of people in transition who cannot attain their needs and aspirations without assistance. Although the ultimate solution will depend upon improved economic and social conditions generally, in the short term the programs designed to enable the native people to attain higher standards of living are of vital importance.

MAIN SOCIAL PROGRAMS

The large Indian and Eskimo population of the Northwest Territories places heavy responsibility on the Federal Government for the improvement of the social and economic conditions in which they live. Although some federal departments such as the Departments of Transport and National Defence have a continuing role in the North, federal responsibility for the welfare of the people and the development of the northern territories has been given to certain departments, primarily the Departments of Northern Affairs and National Resources, Citizenship and Immigration, and National Health and Welfare. These federal departments, in close co-operation with the Government of the Northwest Territories, administer various social programs designed to assist territorial residents and to improve living conditions in the North.

The broad responsibility for northern development was given to the new Department of Northern Affairs and National Resources in 1953. Its prime objectives were the creation of a modern educational system, the promotion of northern resource development and the co-ordination of the work of federal departments in the North. The paramount need was to bring about a standard of living comparable to that in other parts of Canada as soon as possible. In the years since 1953 considerable progress has been made. Where formerly only a small percentage of the children received any formal training, now about 85 per cent of the school-age population is in school. Social assistance is available where once starvation was not uncommon. Organized resource harvesting is a new development and now some 15 co-operatives of various types assist the native people in obtaining a better standard of living and an understanding of a new way of life. Health standards are greatly improved, and

progress has been made towards improving the standard of housing of the native people. Local government is developing and local advisory committees give a measure of participation in community affairs which is new to many of the people.

The North today still has many problems, yet it is only when the progress of the past years is reviewed that these problems can be seen in perspective. The opportunity to achieve living standards to equal those normally found in southern Canada remains the primary goal, and it is towards this that the main government programs, described briefly here are striving.*

Education

The education system of the Northwest Territories, like the provincial systems, tries to provide the best education program to fit the abilities and ambitions of the northern people and to meet the needs of the society in which they live. It aims at an ethnically integrated system of basic elementary, secondary and higher education for all young people. For those who wish to specialize or are beyond school age, vocational and adult education is provided. The education system is young and still expanding rapidly to meet basic needs. Its ultimate success will depend upon the degree to which each young person in the Territories is able to reach out and grasp his full potential.

Prior to the mid 1950's most of the schools in the Northwest Territories were operated by the churches with some financial assistance from the government. The schools that were established were mainly in the Mackenzie Valley, and outside the few larger centres only a small proportion of the children received more than an elementary education. Few in the eastern Arctic received any at all. In 1955, the Department of Northern Affairs and National Resources launched a major school program to build schools and pupil residences throughout the Territories to replace the church schools and to serve all the children except those already accommodated in established school districts in Yellowknife and Hay

River. Large schools and pupil residences were built in the main communities in the Mackenzie Valley such as Inuvik, Fort Simpson, Yellowknife and Fort Smith and day schools were provided in most of the smaller communities throughout the Territories. The churches retain a role in education by operating pupil residences for the Department. The Department plans to have sufficient basic school facilities to serve all the school-age children by 1970. While education is a territorial responsibility, the Federal Government has direct legislative and financial responsibility for Indians and Eskimos which results in its continuing involvement in education in the Territories.

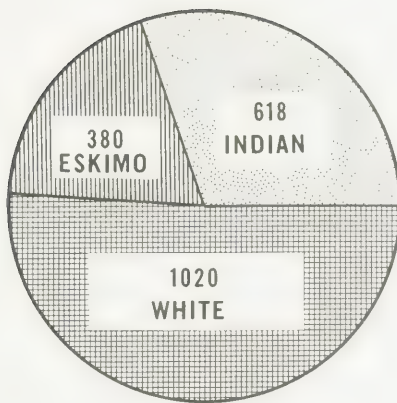
This build up of a federal school system has meant a total expenditure of over 30 million dollars for construction alone. Between 1955 and 1965, the number of federal schools has grown from 10 to 51 and the number of teachers in all schools from 77 to 326. The total number of children in school in the Territories increased from 2,018 to 6,033 (Figure 33). The direct cost of operating the federal schools is approximately \$685 per pupil per year; the pupil residences average about \$1,250 for each child. The school districts are financed by taxes on local property and by construction and operating grants from the Territorial Government.

Public assistance is no longer confined to elementary and secondary education within the Territories. Those capable of special training may be sent to vocational, technical, or other training schools in the provinces. Further assistance is provided through apprenticeship training and job placement. The Northwest Territories Government finances attendance at recognized universities.

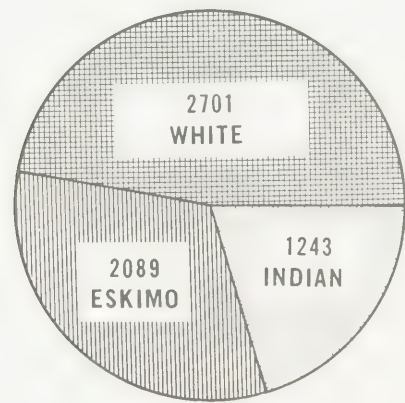
Physical and climatic conditions in the Territories make high construction and operating costs inevitable. A classroom on the Arctic Coast costs at least twice as much as a classroom in Edmonton. Even in the Great Slave Lake area, costs may run one-half more than in southern Canada. Children from isolated areas have to be housed in pupil residences. Isolation and harsh climatic conditions require teachers who are willing to leave the comfort and security of the southern environment to teach in a new and different setting in the North.

*Detailed information on specific programs is available in the various publications of the federal departments and agencies involved.

Pupil Enrolment by Ethnic Origin Northwest Territories Schools



March, 1955



March, 1965

FIGURE 33

A teaching staff with a standard of professional training equal to that found in the provinces is provided. Despite the need for special adaptation to the northern way of life, the annual turnover of staff, about 24 per cent, compares very favourably with remote rural districts in the provinces. One difficulty is to find and retain senior staff and to recruit teachers with specialist qualifications who are needed to deal with the problems of teaching native children.

In some locations where schools have been built only recently, there are children who were not able to start school at the normal age. These older children require a program which places greater emphasis upon training for useful employment. Pre-vocational schools have been established at Yellowknife and at Churchill, Manitoba. A wide range of vocational subjects, some especially adapted to the back-

ground and needs of the native children, are taught. More advanced training in the trades is given at Yellowknife or at schools in the provinces when necessary.

The development of curricula to meet the special needs of the northern pupils presents a special problem. Most of the native children have never experienced anything approaching the southern environment. Much of the teaching material readily available in the provinces does not meet the complete needs of northern schools, and special reading materials and films to fit the northern setting are provided. Many of the Eskimo, Indian and Metis children spend much of their early years acquiring a background of knowledge so they may compete with the white children in the schoolroom. Language differences add to the problem and learning a second language is a major task. The planning of curricula for the different

Distribution of Pupils by Grades and Ethnic Origin Northwest Territories Schools - January 1965

(Vocational Pupils not Included)

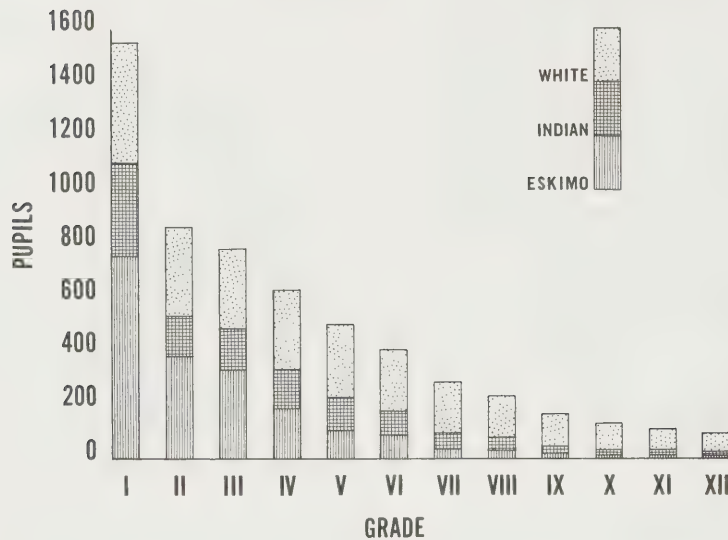


FIGURE 34

regions and peoples of the Territories takes these problems into account and endeavours to provide northern children with a standard of education which will enable them to compete with southern residents. The curricula for secondary school pupils are closely related to those of the adjacent provinces in order to maintain a comparable graduating standard.

The problem of staffing and maintaining small schools is particularly difficult in the North. In southern Canada, the one-classroom school is disappearing in favour of larger well-equipped schools which can offer specialized instruction. In the North this has been achieved by the construction of pupil residences, some of which accommodate up to 250 pupils of varying ages. Smaller residences for 8 or 12 pupils are used mainly in the eastern Arctic to allow children from isolated Eskimo camps to attend school in the nearest settlement. There are now in operation nine large pupil residences (including Churchill), which

have over 1,400 children in all and there are small residences at eight communities in the eastern Arctic which house another 144 children. A pupil residence presents a new way of life for the native children. Here they learn to live with others and converse in a new language.

The comparatively new school system has already had tremendous impact on the native peoples in the Territories and it has made the North a much more attractive place in which to live. It will continue to play a key role in the advancement of the Indian and Eskimo people towards a higher standard of living both by giving them new concepts and by training which will help them compete with other Canadians. Even now, the average native child is staying longer in school and is attaining a level of education far beyond what was possible a few years ago (Figure 34). The education process among the native people, particularly the Eskimos, is now at the difficult

stage where children surpass their parents in their grasp of modern-day life. Education of the adults, many of whom speak no English and understand little of life outside their community, presents a pressing need. In the past, the needs of the children have received the main emphasis in the school system. This emphasis will continue but more attention needs to be given to assisting the adult people in coping with their problems.

Health

Health facilities in the Northwest Territories range from the most modern of hospitals in the larger Mackenzie communities to lay dispensaries operated by a trader, policeman, or a missionary at remote settlements. Although there are several doctors in private practice and a community-operated hospital in Yellowknife, and church-operated hospitals in a number of other settlements, most facilities and staff elsewhere in the Territories are supplied by the Northern Health Service of the Department of National Health and Welfare. The Northern Health Service is responsible for providing health care for Indians and Eskimos on behalf of the Government of Canada and for all others on behalf of the Government of the Northwest Territories. The objective of both governments is to ensure that medical and other health services comparable to those in other parts of Canada are available to the residents of the Territories.

The Northern Health Service operates modern hospitals and clinics at Inuvik and Frobisher Bay, as well as other clinics at Cambridge Bay, Fort Simpson, Fort Smith and Rae. It also operates four dental clinics, seven health centres, 16 nursing stations and 27 lay dispensaries throughout the Northwest Territories. The operation and maintenance costs of the facilities provided in 1963-64 totalled nearly 4 million dollars.

The recruitment of experienced medical and dental staff to work in the Territories continues to be difficult because of northern living conditions. The overall problem is to provide health care with a limited number of staff to comparatively small groups of people scattered over more than a million square miles of country. It is impossible to assign a doctor to any of the dozens of small settlements in the North. In such circumstances,

the only alternative is to assign doctors on a regional basis, and to make them as mobile as possible through the use of aircraft. This service is supplemented by the use of two-way radio, with doctors giving guidance and instruction over the air to nurses and lay dispensers in the outlying settlements. Nursing stations operated by two or more registered nurses have been established in most settlements having more than 250 residents. The nurses are able to provide preventive and routine care locally. More complicated medical and surgical cases are removed to the larger centres by air.

The Northern Health Service carries out extensive health programs, including prenatal and postnatal care, immunization, school health programs and the control of tuberculosis and other communicable diseases. Home visiting and health education, dental health care for all school children, and other programs designed to improve community sanitation are now in operation. Where facilities are not available, parties of doctors, nurses and X-ray technicians visit arctic communities to carry out complete medical and X-ray surveys. Many eastern Arctic communities are covered each summer during the sealift, while other remote settlements are visited by medical parties using aircraft.

Notable improvements in health conditions have been achieved in some areas. In particular, the death rate from tuberculosis, which was one of the greatest scourges of the Eskimo and Indian people, has been drastically lowered. These improvements are reflected in the rate of natural increase of the native people which was two and a half times the all-Canada rate in 1964.

Many serious health problems remain, particularly among the native people. Infant mortality still exceeds that of many of the underdeveloped countries of South America and Africa. The 1964 mortality rate of Eskimo children aged 1-4 years was 13 times the all-Canada rate. The average age for deceased persons in the Territories in 1964 was 19.3 years for Eskimos, 29.9 years for Indians, and 34.3 years for whites and others, as compared with 61 years for all Canada.

The task of the northern doctor or nurse is made more complex by the social conditions prevalent in large segments of the native

population. The shift away from life on the land has brought with it such problems as inadequate diet for many of the native people. Inadequate and overcrowded housing make the control of respiratory diseases difficult. Concentration of population has brought problems of sanitation which did not exist when the people were scattered over the land.

As in some provinces, the medical services in the Territories are supplemented by a publicly financed hospital insurance plan operated by the Territorial Government. The plan covers normal hospital care as well as some diagnostic and treatment services for outpatients. It is financed by contributions from the Federal and Territorial Governments, and from payments by patients of \$1.50 per hospital day. The Federal Government pays about 75 per cent of total cost through grants and special payments for Indians and Eskimos.

Welfare

In periods of major social change, welfare services assume increased importance. The basic welfare programs in the Northwest Territories compare with those in the provinces and are provided by the Federal and Territorial Governments. Municipal govern-

ments do not operate any welfare services and there are no private welfare agencies in the Territories. National welfare programs such as the Old Age Security and Family Allowance programs apply to people in the North as elsewhere in Canada. Other welfare services are supplied by the Department of Citizenship and Immigration for Indians, the Department of Northern Affairs and National Resources for Eskimos and the Territorial Government through the staff of the Department of Northern Affairs for all other residents.

Although differences in treatment have occurred in the past because the welfare programs for different ethnic groups are administered by separate government agencies, there is a continuing effort to achieve uniformity. All three government agencies use the policies and procedures of the Territorial Government Social Assistance Program. In some communities in the Mackenzie Valley, where only one agency is represented, it will act for the others.

The bulk of welfare services is given to the native population because of their low income level and their problems of social change (Figure 35). Social assistance is still issued by voucher for the purchase of food and other essentials rather than by cheque or

**Distribution of Social Assistance to Eskimos
in the Northwest Territories on Basis of Need
1963-64**

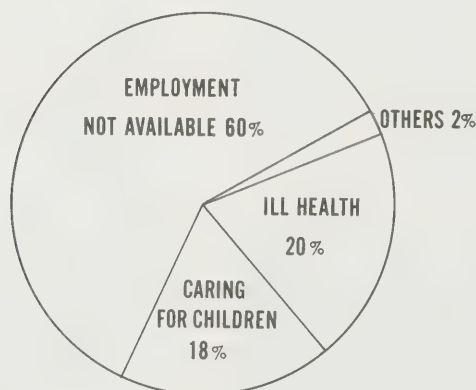


FIGURE 35

cash. The merits of continuing this practice, which has been abandoned in most of Canada, have been questioned.

The Old Age Security and Assistance Programs have done much to maintain the position of the older people in the family group because they can continue to contribute towards their own support. Where institutional care is required, this is either purchased by government agencies from church or provincial institutions or provided by the Home for the Aged operated by the Department of Northern Affairs at Aklavik. Again financial responsibility is divided between the governments along ethnic lines.

The Department of Northern Affairs administers the Child Welfare Ordinance and provides for the care of Eskimo children. It operates four children's receiving homes in the Territories, arranges foster home care and contracts with provincial agencies for the care of Eskimo children. The Department of Citizenship and Immigration provides similar care for Indian children. There are medical-social services to help Eskimos and Indians who have to undergo medical treatment away from home.

A program of community development was begun by the Department of Citizenship and Immigration for Indians in 1964. New programs of social and cultural development and commu-

nity assistance are being undertaken by the Department of Northern Affairs to assist the Eskimos in their own communities with problems of social and cultural change. The aim is to help the local people recognize and deal with their problems through community or group action and to encourage local initiative. Financial assistance is available for organized self-help projects.

Another new development is the Territorial Government's corrections program which is being started in the Mackenzie District. A territorial jail, a minimum security camp, and a probation service will be established to deal with offenders sentenced to less than two years' imprisonment. At present, most short-term sentences are served in local police cells. Many juvenile offenders get no attention at all because of the absence of suitable corrections services in the Territories.

While the divided responsibility for welfare services in the Northwest Territories raises some difficulties, the lack of social workers and other trained staff is the major administrative problem. There are few local service organizations to assist and these exist only in the larger communities. The churches act in their own spheres but the main welfare programs are financed and operated entirely by government, mainly by the Federal Government because of its responsibility for Eskimos and Indians (Figure 36).

Distribution by Source of Social Assistance in the Northwest Territories 1963-64

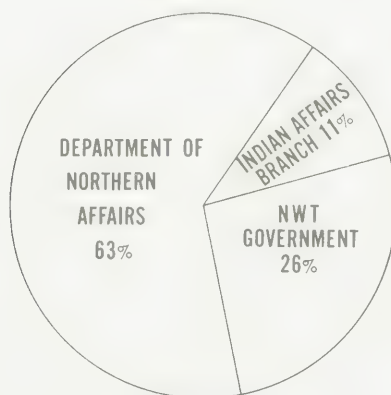


FIGURE 36

Housing

The Federal and Territorial Governments are taking an increasingly active part in providing housing in the Territories. Assistance under the National Housing Act has been available since 1954, but residents have not been able to take full advantage of it because of the high cost of this type of housing in the North. The cost of providing shelter is much higher than it is in southern Canada because local building materials are either in short supply or non-existent. Consequently, materials have to be transported over long distances during a shipping season which may last only a few months, often arriving too late for erection in the same year. The eastern Arctic presents the greatest problem because it has very few local building materials or fuel.

Northern residents have to face high maintenance and heating costs. Even so, many white residents in the Mackenzie Valley have housing which is comparable to that of smaller rural communities in the South. The Federal Government and larger private companies usually supply their employees with housing superior to that of most self-employed persons. In some of the larger communities there are a number of local professional and businessmen who have housing of high quality.

Raising the housing standards for white residents is mainly a matter of making it easier for the individual to borrow money for construction or purchase. The Territorial Government now provides second mortgages of up to \$2,000 for residents who borrow initially under the National Housing Act. It also operates a low-cost mortgage program of its own, under which first mortgage loans of up to \$6,000 may be made to finance more modest housing than that covered by the National Housing Act. Home owners may obtain a subsidy of \$1,000 if they continue to live in the house.

Few Indians and Eskimos are able to take advantage of territorial mortgage programs. Usually they require not only financial assistance, but also the services of some agency, most often government, to purchase and ship the materials to their community. In addition, southern tradesmen may have to be engaged, and sent north at considerable expense, to help with construction.

Adequate housing is recognized as essential to the effectiveness of other programs such as education, health and welfare. Federal assistance to the Indians and Eskimos for housing is given under two separate programs by the federal departments concerned. The Department of Citizenship and Immigration estimates, as of March 31, 1965, that 195 new houses were required immediately for Indians in the Mackenzie District and that 55 houses were in need of major repairs. About 40 units are being erected in 1965-66 and increased construction is planned for 1966-67 as it is recognized that housing is a strategic element in the new community development program now being introduced. Financial assistance is made available on a subsidy basis, providing the individual contributes as much as he can in materials, labour or cash. In some cases labour is all that can be contributed. The aim is to foster Indian pride in themselves, their homes and their communities.

The Department of Northern Affairs helps to provide housing for Eskimos. Although tents and snowhouses are still being used, more and more Eskimos are living in permanent houses. This change is largely the result of the Department's housing program which was begun in 1959. The houses supplied are usually of a minimum size. They range in value up to \$7,000 each and when sold to the Eskimos, the Department provides a subsidy of \$1,000. The balance is met by the Eskimos through loan arrangements. The value of labour in erecting these houses may be used as part payment. By the end of 1964, over 750 houses had been supplied. About 500 of these were sold, and 250 made available to Eskimo families with very small incomes. While some Eskimos, mainly those in wage employment, have already completed their payments, and others are paying over a 10 year period, there are many who have not been able to keep up the payments even on the smallest house. The housing program is a long-term one and has to contend with the problems of low income, high fuel costs, climate and distance which are not present in southern Canada. Over 600 more houses are required for the present Eskimo population. In addition, there is a growing need for larger houses to reduce the seriously overcrowded conditions that now exist. A major program for low cost rental housing is now being planned.

Finally, some reduction in the cost of heating oil has been achieved through the provision of bulk oil storage tanks by the Department of Northern Affairs in the main communities in the Arctic. Besides halving the price of oil in some areas, the larger storage facilities assure the availability of the fuel necessary for general expansion in the size and number of houses in these communities.

Economic Development

All the natural resources of the Northwest Territories except game are controlled by the Federal Government. These are administered primarily by the Department of Northern Affairs which, with the Territorial Government, carries out an active development policy.

To attract investors to the North, both governments are taking measures to offset the disadvantages of higher operating costs. They are trying to provide an economic climate which will induce businessmen to go into the Territories and remain there. Improved transportation by rail, road, air and water helps reduce the costs of importing materials and exporting products for the major resource development industries. The federal contribution to the construction of the Great Slave Lake Railway to Pine Point was over 85 million dollars. A substantial network of major roads has been built by the Federal Government in the southern part of the Mackenzie District, with expenditures of approximately 24 million dollars in the last decade. Special programs of aid are offered for tote trails, area development roads, mine access roads and mine development roads, with the Federal Government's contribution ranging between 50 and 100 per cent of cost. Federal grants are made to aid in the construction of resource development airstrips with annual appropriations of about \$80,000.

The Federal Government also provides a wide range of administrative and information services for industry. The Department of Northern Affairs maintains a mining and lands office at Yellowknife with a library of air photographs and a prospector's assay service, as well as operating a library of well samples and cores at Calgary. The Department of Mines and Technical Surveys carries out intensive mapping programs in the North and

the results are made available as quickly as possible to prospectors and exploration companies interested in mining and oil. Federal agencies such as the National Research Council, which has given expert study to the special problems of construction in the North, provide valuable assistance. The development of hydro-electric power has been undertaken by the Northern Canada Power Commission to provide electricity at economic rates to the mines at Yellowknife and Pine Point.

The renewable resources of the Northwest Territories are administered by the Department of Northern Affairs with the exception of fisheries which are administered by the Department of Fisheries. A forest management and protection service operates throughout the Mackenzie District and a game conservation and management service has staff at all major centres in the Mackenzie and at one Arctic location to act for the Territorial Government. In line with its special responsibility for Eskimos, the Department conducts area economic surveys, supports industrial and co-operative development, and resource harvesting projects to bolster the economy of this group.

A program of economic development for Eskimos, based largely on renewable resources, was initiated by the Department in the late 1950's. Projects undertaken to date include commercial and domestic fisheries, food-processing projects based on the harvesting of seals and white whales, boat-building projects, logging and saw-milling operations and fur garment manufacturing. A notable success has been the arts and crafts program which in 1964-65 alone brought over \$400,000, as well as world-wide artistic acclaim, to many Eskimo communities in the Northwest Territories.

In some places, these projects have resulted in the development of producer and consumer co-operatives, which have the social and educational value of giving the Eskimos some degree of control of their economic affairs. The co-operative program has recently extended into the field of northern housing.

The young tourist industry in the North relies heavily on the fish, wildlife and scenic

resources of the Territories, and the Territorial Government has an active tourist development program. An expanding network of road, air and water routes now opening the North is making it accessible to increasing numbers of tourists, and is giving increased business to hotels, restaurants, stores, garages, airlines and tourist lodge operators.

Indian Affairs

Social change in the Northwest Territories has left most of the older generation of Indians living the traditional life on the land while the younger people are drawn to settlement living and wage employment. The Federal Government's policy is to assist the Indians to participate fully in the economic and social life of Canada. At the same time, there can be no change in any rights given under the Treaties without the full consent of the Indian people. Indian reservations have never been established in the Northwest Territories. Indians attend the federal schools in the Territories and they are provided with a full range of health services by the Department of National Health and Welfare.

The Indian people have serious problems in adjusting to the new way of life in the Territories. The white man's concepts of steady employment and systematic saving are difficult for Indians to understand and they hesitate to accept the standards and values of life of southern Canada. However, the steadily increasing level of education and the generally broader outlook of the younger people is a measure of their increasing ability to adjust successfully to the new standards.

As in the rest of Canada, the Indian Affairs Branch of the Department of Citizenship and Immigration provides special services such as welfare and a number of self-help programs from its regional headquarters in Fort Smith. Some programs are designed to help Indians living on the land to obtain a better return for their efforts. These include assistance in hunting, fishing and trapping and involve repayable cash advances to outfit trappers. Advice on commercial fishing ventures and assistance in marketing are available and walk-in freezers for storing meat and fish are supplied. In other

programs the Branch helps Indians to augment their income by offering guide training courses and advice on handicrafts.

Under the housing program, Indians are helped to finance and build new homes and repair their old ones. Programs designed to help the Indians improve their communities are aimed at overcoming substandard housing, unemployment, apathy, ill-health and malnutrition.

Although caught in the pressure of change between their own tradition and the new technology, the younger Indians have opportunities now, as never before, to obtain education and new skills. A Regional Indian Advisory Council is being formed which, in consultation with 16 Indian Band Councils in the Territories, will advise and consult with the Federal and Territorial Governments on matters of mutual concern.

Administration of Justice

The administration of justice is a basic function of organized government, and it has always met with special problems in frontier areas and amongst native peoples. The Royal Canadian Mounted Police is the law enforcement agency in the Northwest Territories and the Force has a long tradition in this role. Until after World War II, the Force was the main representative of government in the Territories, and in remote areas the police still perform many tasks for other government agencies and give medical assistance. Although the Force now uses aircraft extensively, some patrols into remote areas have still to be carried out by dog team and boat. Other tasks, such as patrolling the territorial highways duplicate conditions in the provinces. The Force had 31 detachments and 126 full-time staff members in the Territories in 1964. The location and strength of the detachments changes constantly in line with the population shift into the larger communities.

Indians and Eskimos have full liquor privileges in the Northwest Territories and liquor is involved in the large percentage of offences before the courts. The rate of crime in the Territories is higher than elsewhere in Canada mainly because the large native popu-

lation and itinerant white labourers are prone to difficulties involving liquor. There were for example 1,839 prosecutions for liquor offences in the Northwest Territories in 1964.

The Department of Justice has responsibility for those aspects of the administration of justice in the Northwest Territories which do not fall within the jurisdiction of the Territorial Government. The Department is also responsible for the direction and conduct, on behalf of the Crown, of criminal and civil litigation in the Territories. This includes prosecutions under the Criminal Code and the Territorial Ordinances. The Attorney General of Canada is the Attorney General

of the Northwest Territories for purposes of the Criminal Code.

The vast area and sparse population of the Territories cause many unusual difficulties in the administration of justice. The Territorial Court is based at Yellowknife and the Court and Counsel have to make lengthy circuits by air to the outlying areas. The single Police Magistrate resides at Yellowknife and travels widely to deal with cases throughout the Territories, except in the Frobisher Bay area which is served by a deputy police magistrate from Ottawa. Justices of the peace are appointed as required throughout the Territories. Territorial legislation provides for the appointment of coroners and the selection of jurors.



in 1905

INTERNAL BOUNDARIES

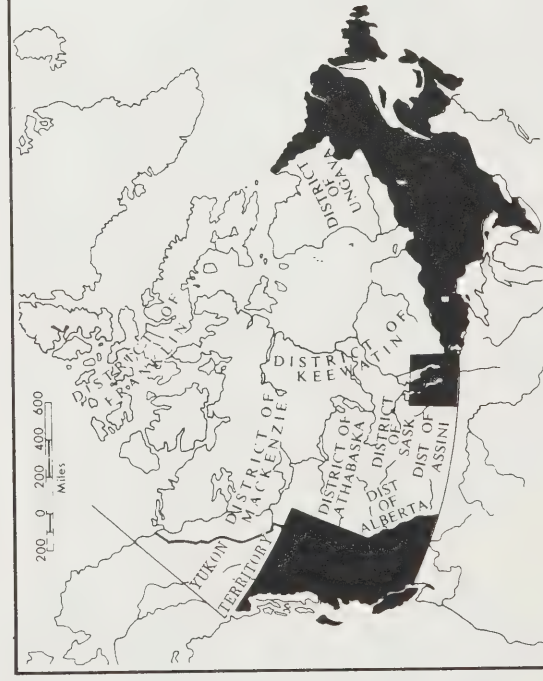


in 1912



in 1882

INTERNAL BOUNDARIES



in 1898

FIGURE 37

PART IV

POLITICAL DEVELOPMENT

CONSTITUTIONAL DEVELOPMENT OF THE EARLY NORTHWEST TERRITORIES

Before describing the government of the Northwest Territories today, perhaps a brief glance should be thrown on the beginnings of territorial government in Canada.

Government was first provided for the newly acquired Rupert's Land and Northwestern Territories by the Temporary Government Act of 1869, a measure which was swiftly replaced by the Manitoba Act of 1870, certain sections of which established a government for the Northwest Territories. However, the most important legislation respecting the Territories was the Northwest Territories Act of 1875, which moved the seat of government from Fort Garry, Manitoba, to Battleford on the North Saskatchewan River. Federal control over territorial legislation was reduced, for although the Governor-in-Council retained the right of disallowance, no longer was it necessary to submit every ordinance to Ottawa before it could become law.

There was to be a Territorial Council of five appointed members, three of whom were to be stipendiary magistrates of the Northwest Territories. Allowance was also made for the eventual election of Council members. As soon as any area of 1,000 square miles or less contained 1,000 adult British subjects, an electoral district could be established. The electoral district could send one member to Council for a two-year term, and two members when its population reached the 2,000 mark. Furthermore, the Act stated that when the elected members numbered 21, the Council was to become a legislative assembly, but whether this transformation would be accompanied by the granting of full responsible government was not clear.

As the population of the Northwest Territories remained thinly spread, it was not until 1881 that the first elected member was returned to the Council. Thereafter, settlement advanced more rapidly. By 1887, the Territorial Council numbered 20 members and considerable pressure was building up for the establishment of a responsible ministry and an entirely elected assembly.

In 1888, the Federal Government passed legislation establishing a legislative assembly of 22 elected members and three appointed legal experts who were to be chosen from among the territorial judges. The assembly was to have a speaker and its relations to the Lieutenant-Governor in respect to making legislation were to be similar to those of a provincial legislature. The legislative powers of the assembly remained unchanged. The Act did not provide for an executive council. Instead, an experimental device was introduced, for the Lieutenant-Governor was empowered to select from among the elected members an "Advisory Committee on Finance", which would only have authority over the management of the general revenue fund of the Territories. This fund consisted entirely of revenues from local sources, which for the year 1887-88 amounted to only 14 per cent of the total territorial expenditures. The Federal Government maintained that responsible government was premature as long as Ottawa had to supply a large portion of the territorial revenues.

The continuing pressure for fully responsible government was finally met by a further amendment of the Northwest Territories Act in 1897. This provided for an executive council of the Territories, members of which were to be chosen by the Lieutenant-Governor, their

status and tenure to conform with the principles of responsible government. The Territories did not yet have the full powers of a provincial government, especially with respect to their finances. Within the powers assigned, however, the Territories were to deal with subjects in the manner of a provincial legislature.

The rapid growth of population and increased economic activity brought demands for better government services, and alternatively, for provincial status. The Provinces of Alberta and Saskatchewan were created by an act passed by the Federal Parliament in 1905. Lands and natural resources, excepting wildlife, were retained by the Federal Government until 1930, primarily on the grounds that land policy was a vital part of the Dominion's immigration policy and the two must be administered in conjunction.

EVOLUTION OF TERRITORIAL GOVERNMENT AFTER 1905

When Saskatchewan and Alberta became provinces, the government of the residual Northwest Territories was reduced to the status that existed prior to 1870. Elected representation completely disappeared. The 1905 Act provided for a council of four appointed members, but no appointments were made for 16 years. A Commissioner was appointed with all the powers previously enjoyed by the Lieutenant-Governor, the Executive Council, and the Assembly of the Northwest Territories.

The first Commissioner was Lieutenant Colonel Frederick White, Comptroller of the Northwest Mounted Police, who administered the Territories from Ottawa along with his other duties. The dual appointment was a reasonable arrangement as the police were the only representatives of any government in the North. But police posts were few, and the Northwest Territories seem to have managed much as it always had since the beginning of the fur trade.

After Lieutenant Colonel White's death in 1918, the Deputy Minister of the Department of the Interior was appointed Commissioner of the Northwest Territories in 1919, inaugurating a practice that lasted for the next 43 years. Not until 1963 were the offices of Commissioner of the Northwest Territories and Deputy Minister of the federal department responsible for

northern administration separated. No territorial legislation was passed between 1905 and 1920 and most of the ordinances in effect applied to conditions on the prairies rather than to the area north of the 60th parallel. In 1921, new legislation was finally forthcoming. An ordinance was proclaimed by the Commissioner in order to control the entry of persons into the Northwest Territories. Its validity, however, was immediately challenged. Could the Commissioner alone, without a council, make laws? The federal Department of Justice ruled that he could not and that a council must participate in the making of laws for the Northwest Territories.

In 1921, the Council provided by the Act of 1905 was finally appointed with two additional members to give a total of six Councillors. The duties of the Councillors do not appear to have been very onerous for the next decade. From 1922 to 1930 only 11 ordinances were passed and in some years the Council did not meet at all. As the Council was composed entirely of the senior officials of the various federal departments involved in northern administration, it acted as something much more than a legislative body. It became, through the years, an interdepartmental committee of consultation and co-ordination, a general advisory body on all northern administration.

The growing significance of the Council is demonstrated by the increasing frequency of its meeting during the 1930's, the war years and the immediate post-war period. Monthly meetings became regular and in addition, special meetings were often held when business demanded urgent consideration. A major advance came in 1946 when the first territorial resident was appointed to the Council, Mr. J.G. McNiven of Yellowknife. By 1955, all the legislation passed before 1905 had been replaced. Nevertheless, for 45 years the constitution of the Northwest Territories remained very much the same, until 1951 when provision was made for the election of three members of the Council.

This stability should not suggest that the system did not come under criticism. Residents of the Territories, particularly those in the Mackenzie District, expressed dissatisfaction over the lack of representative institutions and the remoteness of legislators and administrators in Ottawa. Such protests were intermittent and arose at different times in the

small and isolated settlements. Discontent was provoked mostly by annoyance over specific issues: the liquor laws, the school system, public works, mining and land laws and general administrative problems. Only occasionally was the issue of representative government raised. This is perhaps not too surprising considering the small number of residents who had any experience in government or wanted to become involved in it. Whatever political activity there was, existed only in the Mackenzie Valley, as many of the Arctic Islands were only explored during the opening years of World War I, and some Eskimos did not see a European until the 1920's or later.

While the composition of the Territorial Council remained unchanged, elected representation at both the federal and local levels had increased. The federal riding of Yukon had been extended in 1947 to include the western portion of the Northwest Territories, and in 1952 a separate Mackenzie riding was established. Local administrative districts had been created at Yellowknife in 1939 and at Hay River in 1949, with partially elected councils. It was apparent in view of these developments and the continuing increase in population in the Northwest Territories, that the Territorial Council should have broader representation and a more formal approach to its task. The Federal Government took the view that the intent of the Northwest Territories Act was that the Council should be primarily a legislative body which could be used by the Commissioner when occasion required, for advice. As all administrative and executive actions were clearly the prerogative of the Commissioner alone rather than of the Commissioner-in-Council, there was some objection to administrative matters being referred to the Council for decision as well as for advice. The Federal Government thought it desirable that in future the Council should be limited to legislative matters, and to giving advice on such questions of major policy as might be referred to it by the Commissioner. The objective was to streamline and strengthen the administration and simultaneously to make the reformed Council a more democratic institution as well as a more exclusively legislative body.

These views were first given legislative force in the amendments to the Northwest

Territories Act in 1951. The amendments increased the size of the Council from six to eight and provided for the election of three members. It thus became possible for residents of some areas of the Territories to vote at all three levels of government, federal, municipal and now territorial. It was also stipulated that there was to be a minimum of two council sessions each year, one of which was to be held in the Territories.

By the Northwest Territories Act of 1952 (proclaimed in 1955), the legislative powers conferred on the Territorial Government in 1905 were extended to embrace additional subjects over which the provinces had jurisdiction. A Territorial Court was established, and provision was made for the appointment of police magistrates in lieu of stipendiary magistrates, as well as for the appointment of justices of the peace.

In July 1954, the Council was enlarged to nine members by the addition of a fourth elected member. The three electoral districts created in 1951 were now altered to make four territorial constituencies: Mackenzie North, Mackenzie South, Mackenzie Delta and Mackenzie River. There was no representation from the eastern Arctic; only the Mackenzie District elected members to the Council.

Following the changes in the form of the Territorial Government came changes in the composition of the Council. In 1960, three councillors were appointed from the general public. They were individuals who could bring a variety of talents and experience to deliberations, and yet be as detached from administration as the elected members. Furthermore, the appointed members came from all parts of the country, not just from the national capital. These changes reduced the voice of the federal administration in the Council since representatives from federal agencies formerly on the Council, particularly the Royal Canadian Mounted Police, the Department of Citizenship and Immigration and the Department of National Defence, were not appointed. By 1964, the Deputy Commissioner was the only federal employee still holding a seat on the Council (Appendix XXII).

The accelerated pace of development in the Northwest Territories, especially in the Mackenzie District, provoked the consideration

of even more profound changes in the structure of the Territorial Government. At the January Session of the Northwest Territories Council in 1961, the elected member for Mackenzie Delta suggested that consideration should be given to dividing the Northwest Territories in order to establish resident territorial government in the Mackenzie Valley. Over the next three years, both the principle and the details of division were discussed at every session of the Council and a variety of reasons for division were advanced. Chief among these were:

1. The existing Northwest Territories was not a homogeneous and manageable political entity.
2. The Mackenzie Valley, being a geographical unit containing the more densely populated and articulate parts of the Territories, could advance more quickly toward provincial status if made a separate territory.
3. Public opinion in the Mackenzie District favoured having the seat of government in the Mackenzie District and the Commissioner living in the Territories.
4. The apparent potential of the Mackenzie Valley for rapid economic development would bring a larger population, more communities, better developed transportations and communications as compared with the eastern Arctic.
5. Division would permit legislation better suited to each region because legislation designed for the more populated and advanced Mackenzie Valley often has no application in the eastern Arctic.
6. Administering the present Northwest Territories from Fort Smith or any other single point in the Territories would be impossible whereas a Mackenzie Territory could be established as an efficient and workable administrative unit.

The Federal Government took action on the expressed desire of the Northwest Territories Council for an independent Mackenzie Territory. On July 8, 1963, two bills were introduced into the House of Commons, Bills C-83 and C-84. The chief provisions of Bill C-83 provided for the name "Mackenzie Territory"

to replace "Northwest Territories", and defined the boundaries of the Mackenzie Territory to include all the mainland of the existing Northwest Territories west of the 105th meridian of west longitude, up to the shores of the Arctic Ocean, as well as Victoria and Banks Islands. The seat of government in Mackenzie Territory was to be Fort Smith. The Territorial Council was to be composed of nine members, four of whom were to be appointed and five elected. A consolidated revenue fund was to be established for the Mackenzie Territory.

Bill C-84 proposed to create a "Nunassiat Territory" out of all the portions of the Northwest Territories not comprising the Mackenzie Territory. This meant that Nunassiat would include all the eastern Arctic mainland and all the islands except Banks and Victoria Islands. The seat of government for Nunassiat Territory was not prescribed and so would presumably remain at Ottawa. The Council was to have a membership of seven, two of whom would be elected and five appointed. One of the appointed members would be the Deputy Commissioner and another would be a resident of the new Territory. A territorial court was to be established, but territorial funds would remain in the Consolidated Revenue Fund of Canada.

Some months elapsed between the first and the second readings of these two bills, and when they finally did reappear in the House of Commons opposition to their provisions had developed. The bills were sent to the Standing Committee on Mines, Forests and Waters which gave them detailed examination and called numerous witnesses for their views. A number of the witnesses were critical, either because they were opposed to the principle of division or because they disliked certain details of either one or both of the bills as introduced. Some of the arguments put forward were:

1. The residents of the Territories had not been adequately advised and consulted on the proposed division, therefore division should be delayed until the wishes of the people had been ascertained.
2. The eastern Arctic, having no elected representation on the Council, had had no voice in the recommendation to divide the Territories.

3. The desired goals of more representative and decentralized government could be achieved within present territorial boundaries and with less drastic adjustments. Apart from the administrative convenience of the Government, there was no obvious reason for division.
4. The possibility of provincial status for the existing Northwest Territories should be given consideration before division was contemplated.
5. There should be no division until the population of the Territories was larger and its economic base much expanded.
6. There is no need for any part of the Northwest Territories to be administered from Ottawa.
7. The elected portion of the proposed councils should be larger.
8. If all Northwest Territories residents could vote in federal elections, they should also be able to vote in territorial elections.

The hearings of the Committee were late in the parliamentary session and neither bill reappeared in the House of Commons before the current session of Parliament ended, so both died on the Order Paper. Division was dormant but not a dead issue, and history seemed to be repeating itself. Stormy differences had delayed the creation of the Provinces of Alberta and Saskatchewan and the division of the "old" Northwest Territories before 1905; the residual Territories now appeared to be facing a similar political future.

THE BASIC LEGISLATION

To appreciate the nature of the Government of the Northwest Territories and its relationship with the Federal Government today, it is necessary to take a quick look at the existing legislative framework. The basic legislation is found in the Northwest Territories Act and in the Department of Northern Affairs and National Resources Act.

The Northwest Territories Act provides partial representative government but not responsible government for the Territories. Executive authority is placed in the Commis-

sioner who is appointed by and is responsible to the Federal Government. The Act directs the Commissioner to administer the government of the Territories on the instructions of the Governor-in-Council or the Minister of Northern Affairs and National Resources. The nine members of the Council (four elected and five appointed) are a legislative body and can act only within the range of subjects placed under territorial jurisdiction by the Act. In general, legislative powers cover matters of local concern and are quite similar to those of a province with the exception that the Federal Government retains control of natural resources and lands (although game has been transferred to the Territories). There are also some limitations on the Territorial Government's authority to borrow and lend money. Provision is made in the Act for addition, by federal order-in-council, to the subjects on which the Commissioner-in-Council may legislate.

A good portion of the Act is devoted to the administration of justice. This establishes a full system of courts consisting of a territorial court, police magistrates and justices of the peace and gives concurrent civil jurisdiction to certain provincial courts. The Act also provides that the funds of the Territorial Government be held in a separate revenue account in the Consolidated Revenue Fund of Canada. In the absence of a territorial public service, this is a practical way of handling the payment and receipt of territorial funds. It allows them to be processed through the administrative and financial machinery of the Department of Northern Affairs.

The Department of Northern Affairs and National Resources Act gives the Minister of that Department wide responsibilities for the development of the Territories. He has residual authority over matters under federal jurisdiction relating to the Northwest Territories and the Yukon Territory, Eskimo affairs and the natural resources in the Territories (game excepted). He is directed to co-ordinate federal activities in the Territories and to undertake, promote or recommend measures for the further economic and political development of the Territories. He has the control and management of vacant Crown lands which comprise the bulk of the land in the Territories. Much of the interest and authority of the Federal Government in the Territories is channelled through this Act and the department it esta-

blished. An appreciation of the relationship between the two Acts is essential to an understanding of the entwined administrative arrangements which exist between the Department and the Government of the Northwest Territories.

The constitutional arrangements for the Yukon Territory are basically similar to those for the Northwest Territories. The Yukon Act however, provides for a fully elected council, a seat of government within the Territory, and a separate consolidated revenue fund. The restrictions on the control of natural resources are the same as in the Northwest Territories. The Yukon Territory has its own public service and, as a result, the Commissioner has more direct control over the administration of the affairs in his Territory than does his counterpart in the Northwest Territories.

SHARED RESPONSIBILITIES-FEDERAL AND TERRITORIAL GOVERNMENTS

The overlapping responsibilities in the two Acts result in rather involved arrangements for the administration of the Northwest Territories. In the main, they arise from the fact that the Federal Government has responsibility for the Indian and Eskimo residents who make up a large proportion of the population of the Territories (about 60%), and for the development of the Territories generally. The Territorial Government has no separate territorial public service to carry out the usual provincial-type services except for the Territorial liquor staff and a few contract employees. The staff of the Department of Northern Affairs and National Resources performs most of the administrative work, provides education, welfare, engineering and other services, while the Department of National Health and Welfare administers the health services. The location of the seat of territorial government in Ottawa, with the Commissioner and Council appearing in the Territories on comparatively infrequent occasions, makes it difficult for the average resident of the Territories to appreciate fully the role of the Territorial Government. By comparison, the Yukon Territory has a fairly complete territorial public service at the seat of government in Whitehorse and throughout the Territory. The Government of the Yukon Territory is easily identified and business can be conducted with it within the Territory without difficulty.

Since 1952, the complex arrangements for the administration of the Northwest Territories and for financing the Territorial Government have been regulated through the framework of periodic federal-territorial financial agreements which run for a term of five years (the current agreement runs until March 31, 1967). The agreement itself is concerned mainly with the amount of the subsidies and loans which the Federal Government will make available to the Territorial Government during the five-year period. It also stipulates the areas of taxation (personal and corporate income and succession taxes) which the Territorial Government agrees to leave to the Federal Government. Greater detail is contained in the report of an interdepartmental committee on federal-territorial financial relations which drafts the agreement. The same procedure is used with the Yukon Territory.

One objective of the committee is to plan how to provide for the development of the Northwest Territories as rapidly and as economically as possible. The immediate purpose is to give the Territorial Government sufficient financial resources to meet its share of the cost of the services planned for the Territories over the next five years and so allow the Territorial Government to direct its own course, make its own decisions and meet its own problems as independently of the Federal Government as possible. More specifically, the main problems settled in the negotiation of the financial agreement are:

1. The nature and extent of the public services to be provided in the Northwest Territories during the next five-year period and which government will carry them out.
2. How the cost of each particular service will be met, (the general arrangement has been that the Federal Government accepts financial responsibility for the cost of services for Indians and Eskimos and the Territorial Government for all other residents of the Territories).
3. The amount of revenue that the Territorial Government should undertake to raise during the next five years by taxation, fees and other means such as the sale of liquor in the Territories.

4. The amount of the grants and loans which the Federal Government will make available to the Territorial Government during the period.

An indication of the extent of the involvement of federal staff in the administration of the Northwest Territories can be gained by

looking at some of the government programs and services of a provincial nature in the light of how they are carried out and paid for (Table 16). All are carried out under the full or shared authority of the Territorial Government, but rarely under its direct administration or by territorial staff.

TABLE 16
Main Programs of a Provincial Nature in the Northwest Territories
How they are carried out and paid for

Service	Agency and Staff	Payment
Northwest Territories Liquor System and some Specialist services.	Government of the Northwest Territories with territorial employees.	Paid direct from funds of the Territorial Government.
Education – i) federal schools ii) University assistance and scholarships.	Department of Northern Affairs and National Resources with federal employees.	The Federal Government pays all costs of federal schools and recovers agreed costs for white and Metis pupils from the Territorial Government. University assistance and scholarships are paid direct from funds of the Territorial Government.
Welfare and Categorical Allowances.	Department of Northern Affairs and National Resources with federal employees (Department of Citizenship and Immigration for Indians).	Federal Government pays all costs for Eskimos and Indians. The Territorial Government pays for all other residents and for categorical allowances to all residents.
Municipal Affairs and Grants to School Districts.	Department of Northern Affairs and National Resources with federal employees.	Paid direct from funds of the Territorial Government.
Administration of Territorial Ordinances, and Engineering Services.	Department of Northern Affairs and National Resources with federal employees.	The Federal Government pays all costs without any recovery from the Territorial Government.
Game Management.	Department of Northern Affairs and National Resources with federal employees.	The cost of programs are paid from funds of the Territorial Government.
Territorial Hospital Insurance Services.	Department of Northern Affairs and National Resources with federal employees.	Paid direct from funds of the Territorial Government for all residents. The Federal Government makes special grants to cover costs for Indians and Eskimos.

Table 16 (Cont.)

Service	Agency and Staff	Payment
Health and Services.	Department of National Health and Welfare with federal employees.	The Federal Government pays all costs for indigent Indians and Eskimos and the Territorial Government pays for other indigents. Each government provides free treatment services for cancer, mental illness and some communicable diseases.
Administration of Justice and Police.	Department of Justice with federal employees and Royal Canadian Mounted Police.	The Territorial Government reimburses the Federal Government for the cost of the administration of Justice and police services (40% only of police costs).

The sources of revenue under the control of the Territorial Government are limited. The main revenue from within the Territories are profit from the territorial liquor system, taxes on fuel oil, gasoline and the sale of motor vehicle and various other licences. The only general tax on property by the Territorial Government is a 10-mill tax in support of education on property not already taxed for a school district. In 1963-64 this tax realized only \$28,644. While the territorial legislation authorizes the application of the 10-mill property tax throughout the Territories, slow progress is being made in this direction because the cost of levying the tax outside of the larger communities cancels out any worthwhile return from it. The tax on heating oil is used as an universal tax on householders in the absence of a general property tax. It was first introduced in 1960 to help meet the cost of Territorial Hospital Insurance Services and produced about \$340,173 in 1963-64.

The sources of operating and capital revenue shown in Figure 38 indicate that nearly half the operating revenues come from the Federal Government in the form of grants and contributions. The main operating recoveries are in connection with the territorial liquor system but those under the shared programs are also from the Federal Government. The bulk of the capital income of the Territories comes from the same source in the form of loans. All borrowings are from the Federal Government (Appendix XXIII). Under the terms of the current

financial agreement, the Federal Government provides additional funds to the Territorial Government to cover the annual repayment of most of the territorial capital borrowings. In 1963-64, this extra amortization grant to the Territorial Government was over \$150,000. This arrangement does not apply to funds which are reloaned to towns or villages. However, the Territorial Government, for the term of the present financial agreement at least, does not have to provide funds to meet annual repayment on most of its capital indebtedness.

The financial agreements have been called tax-rental agreements and they do contain the elements of the tax-rental arrangements between the Federal Government and the provinces. The basic purpose, however, is quite different. The amounts of the federal subsidies to the Territories are not related to the return to the Federal Government from its taxes on private and corporate income and succession duties in the Northwest Territories. They are designed rather to bridge the gap between the normal revenues of the Territorial Government and its expenditures as forecast for the period of the agreement.

Any comparison between federal assistance to the Northwest Territories and the provinces is obscured by the large federal expenditure in the administration of the Territories and the many direct federal payments for Indians and Eskimos. The expenditures by the Department of Northern Affairs and National Resour-

ces for the salaries, housing and maintenance of Northern Administration Branch staff for the fiscal year 1963-64, is estimated to be \$8,600,000 (Appendix XXIV). It is impossible to say accurately how much of this expenditure represents the cost of staff carrying out territorial functions. The division of the population of the Territories on the basis of government financial responsibility could be

used as a very rough guide. The Territorial Government is responsible generally for services for whites and Metis residents who make up about 40 per cent of the population. This would indicate that the Federal Government is making an additional contribution of almost \$3,400,000 worth of administrative services through the Department of Northern Affairs alone.

Sources of Territorial Revenue 1963-64

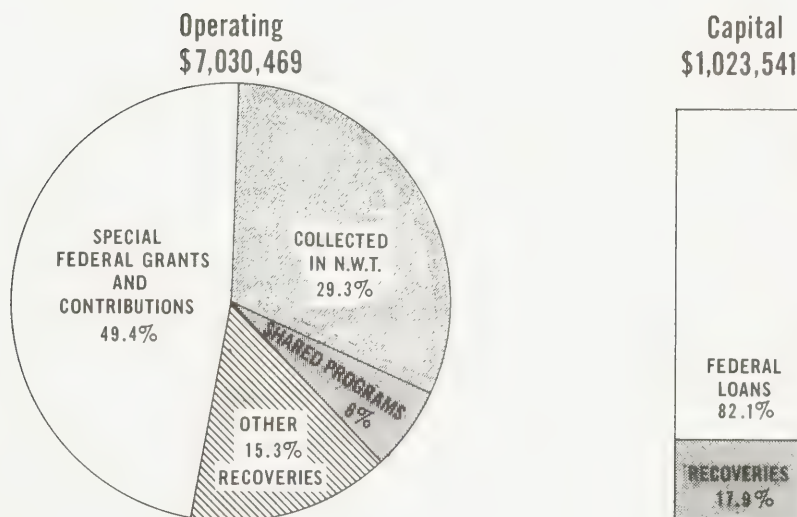


FIGURE 38

The various other federal departments operating programs in the Territories are largely independent of the Department of Northern Affairs and National Resources for their staff and financial needs. An Advisory Committee on Northern Development representing all federal departments with significant interests in the North, with the Deputy Minister of Northern Affairs and National Resources as its chairman, does review the activities of the various federal agencies in the North to establish a co-ordinated approach.

The degree of co-ordination between the departments varies with the location in the Territories. At Frobisher Bay, for example, there is considerable co-ordination and the Department of Northern Affairs and National Resources provides many of the utility services for all the government agencies there. In the communities in the Mackenzie Valley where conditions are more like those in the provinces, the federal departments conduct their affairs almost as independently of each other as they do in southern Canada.

PRESENT TERRITORIAL GOVERNMENT

The three major elements of the Government of the Northwest Territories may be described in terms of the Commissioner (as the executive authority), the Council (as the representative and legislative body) and the territorial administration. It has already been described how the administration of the Northwest Territories is deeply enmeshed with the Department of Northern Affairs, and that the Territorial Government has no public service in the true sense beyond the staff of the territorial liquor system and a few contract employees. While much could be added, attention should now be given to the other two major elements of the Territorial Government.

The Commissioner

Until recently the Deputy Minister of Northern Affairs and National Resources held the office of Commissioner. This dual responsibility was in keeping with the interdependence between the two federal acts controlling the Department and the Northwest Territories and it was an integral factor in the deep involvement of departmental staff in the administration of the Territories.

In practice, the Commissioner has always recognized a much greater responsibility to the Council than the Northwest Territories Act would indicate. He presides at the Sessions of Council and sits with it in committee explaining the details of his administration to the members of Council and seeking their advice on his plans. The Commissioner accepts a good measure of accountability to Council and provides much of the leadership which in provincial governments is the principal role of the cabinet.

The Act provides for a Deputy Commissioner, who until recently has been a senior officer of the Department of Northern Affairs and National Resources directly concerned with the administration of the territorial ordinances and finances. He also provides continuity of executive authority when the Commissioner, due to absence, is unable to take the action required in much of the territorial legislation.

In July 1963, the dual appointment of Commissioner and Deputy Minister came to an end with the appointment of a separate Commissioner. He is a member of the staff

of the Department of Northern Affairs and National Resources and he reports to the Minister of the Department. His office is located in Ottawa in proximity to the Department and he has ready access to the Deputy Minister and to the Director of the Northern Administration Branch. Some of the federal staff such as the Secretary of the Council and the territorial financial officer are under the direct supervision of the Commissioner together with a small number of specialists under contract who are paid from territorial funds. At this point, there has not been enough time to assess the real effect of the change to a full-time Commissioner resident in Ottawa. It would appear that the Commissioner is now able to identify himself more closely with the Council and the Territories.

The Council

Council is called to meet in session by the Commissioner. In practice, the winter sessions are held in Ottawa, usually in January, when the main financial appropriations for the next fiscal year, commencing on April 1, can be considered along with other items of legislation, administration or information which may be scheduled. The explanation of the proposed expenditures in the territorial appropriations requires much detailed information. By meeting in Ottawa, officers of the federal departments immediately involved in the planning and administration of the various programs can appear before Council (in committee) to explain policies and programs as desired. It is the general practice to alternate the summer session between communities in the western and eastern parts of the Territories. The sessions usually last one to two weeks. Special sessions of Council have been convened when emergency conditions arose.

In broad terms, the present functions of the Territorial Council are to create laws for the Northwest Territories, advise the Commissioner on the administration of the Territories and to vote funds to meet the cost of his administration and the territorial share of public services. Bills passed by Council require the Commissioner's assent before they come into force and he can withhold his assent to any bill. Furthermore, any territorial legislation can be disallowed by the Federal Government within a period of two years.

There is no record of the Federal Government ever having disallowed any Northwest Territories legislation nor of the Commissioner withholding his assent. The close working relations between the Commissioner and Council appears to have avoided the formal exercise of these powers. Problems in the application of the territorial ordinances have occurred from time to time. Where any conflict with federal legislation has appeared, the federal legislation rules and where doubt exists, the courts have to decide. There have been instances where occasionally the federal legislation has been changed to bring the two into line. In June 1960, the Northwest Territories Act was amended to make clear that the Northwest Territories Game Ordinance applied to Indians and Eskimos with certain limitations.

The sessional debates are recorded verbatim and are produced in bound form as the Debates of the Council of the Northwest Territories. The sessions both in Ottawa and in the Territories are reported in the daily press and representatives from at least one national news service and the Canadian Broadcasting Corporation usually attend all sessions. All proceedings are open to the public, but because of difficulty in transportation, attendance by the public is limited, especially at sessions held in the Territories.

DEVELOPMENT OF LOCAL GOVERNMENT

Local government provides the other main area for residents of the Northwest Territories to participate in the process of governing themselves, particularly where full municipal government is in operation. Municipal government is not only important for the provision of local services, but also as a training ground in the operation of the democratic form of government. The periodic elections, the council, committee and organizational work which make municipal government function are also essential elements of government at the territorial level. The fact that the locally elected representatives are periodically held accountable for their actions demonstrates that the wishes and desires of the people can be effective.

Territorial legislation provides for incorporated municipal government on two levels. The town has a fully elected council, powers to tax property and business within its boundaries and to borrow funds to a maximum of 20 per cent of its property assessment. At a lower level, the village has a council which is partially elected and partially appointed by the Commissioner. It has less freedom to borrow funds but it qualifies for federal municipal grants as does the town. The Territorial Government provides the usual provincial-type financial assistance to the incorporated municipalities through grants based on property assessment and by sharing in the cost of constructing and maintaining local improvements such as roads and sidewalks. Some additional financial assistance is available to help newly incorporated municipalities to set up their local administration.

Local improvement districts can be established by the Commissioner. These have an elected advisory council which can request the Commissioner to provide specific local improvements and advise him on the conduct of affairs in the community. The Commissioner in turn collects taxes on local property to help meet the cost of services which are paid for out of territorial funds. The experience has been that the Territorial Government recovers less than 30 per cent of its expenditures in local improvement districts from its property tax. Local improvement districts do not qualify for municipal grants.

In the Mackenzie District the Territorial Government assumes responsibility for roads, water and sewage services in many unorganized communities. In the eastern Arctic, these services are still provided by the Federal Government. The use of land in these communities is controlled through the Area Development Ordinance under which an area can be set aside for planned development. Local participation in the management of community affairs is encouraged through local advisory committees but no direct financial responsibility is placed on the property owners in these communities. At the present time, only property in the incorporated municipalities and the local improvement districts is subject to taxation.

The extent of local government as it appears in the Northwest Territories in 1965, is briefly:

- | | |
|--|--|
| Towns | - Yellowknife and Hay River |
| Villages | - Fort Smith |
| Local Improvement Districts | - Fort Simpson |
| Development Areas with advisory committees | - Inuvik, Frobisher Bay, Enterprise, Norman Wells (Pine Point is still in a preliminary stage). |
| Unorganized Communities with advisory committees | - There are approximately 40 other communities which have government administrators or where the teacher may represent the administration. Approximately half of these have advisory committees of varying importance. |

The significance of this list is that it represents all the communities in the Territories which have any organized local administration. Only three communities have attained municipal government status. It is anticipated that Fort Simpson will soon be ready to advance to village status and that Pine Point will move rapidly through the local improvement district level to become a village, if indeed it has to pause at the intermediate stage at all. Inuvik could be next in line for local improvement district responsibilities. Engineering surveys are being carried out in three or four of the unorganized communities each year in order to plan for their future physical development. These communities will have to be made development areas to give force to zoning and building restrictions. A chronological record of the evolution of local government in the Territories is given in Appendix XXV.

Although it is difficult to generalize about the different communities, there is no doubt of the need for more widespread local government in the administrative and political fabric of the Territories. It is obvious that it must differ somewhat in form from what is usually

found in southern Canada. It is doubtful, for example, that there will ever be any need for the county or township structure in the Territories. Wide variations in the rate and nature of development of the several larger communities will probably persist. Mining communities grow quickly. The majority of their residents have been accustomed to the amenities associated with developed towns elsewhere. Mine management demands attractive living conditions for its workers; and schools, community centres and sewer and water facilities are quickly arranged. The mines, and the service industries dependent on them, help to provide a tax base on which to finance the new municipality.

Government administrative centres such as Fort Smith, Inuvik and Frobisher Bay follow another development pattern. The employing government agency builds the houses, streets and sanitary facilities, usually in advance of the population. In commercial-based communities, where neither mining nor government is present in a sufficient degree to bring about the development patterns already described, growth is slower. They approach major municipal developments (and debt) with caution. Communities of this type are now present only in the Great Slave Lake region (Appendix XXVI).

In conclusion, it can be seen that the future development of municipal government, and territorial government as well, depend to a large measure on the degree of economic self-sufficiency which can be developed in the Territories. The shortage of private property with substantial assessment, and the scarcity of local industry are serious limitations on the local tax base. Some of the unorganized communities such as Inuvik and Frobisher Bay have substantial populations but the overwhelming proportion of government property makes it difficult to apply the existing forms of local government. Other communities are growing rapidly and are naturally expecting a greater degree of local autonomy. Some solution will have to be devised which will recognize the restrictions on the amount of the financial contribution which local private property owners can make, and which will give the residents who do not own property some responsibility for their community.

PART V

SUMMARY

This paper has attempted to give general information on some of the more important aspects of the people and their social conditions, the economy and government of the Northwest Territories today. Only passing attention has been paid to the historical development of the Territories and predictions about future developments have been confined to short-term economic and social developments. Assessing the trends of government activity in the Territories and recommending future courses of action are the responsibility of the Advisory Commission on the Development of Government in the Northwest Territories, for whom this paper has been prepared.

No exhaustive analysis has been made of any of the various aspects of life in the Territories. To do so would require much deeper research than was possible, for little of the statistical information needed for an exhaustive study on the Northwest Territories is available. Many of the records of government spending in the area are merged with those for the Yukon Territory, and, in some cases, with those for the northern parts of the provinces. For an area with such unique conditions, comparatively little research by either government or private agencies has been carried out on the North. Federal departments such as the Departments of Mines and Technical Surveys, Fisheries, Agriculture, the National Research Council, and the Department of Northern Affairs, which has been given the responsibility to foster and encourage knowledge of the Canadian North by scientific investigation, are active in this field. However, much more research is required before the basic problems of the North can be dealt with effectively.

The social problems in the Territories at present are mainly centred on the Indians, Eskimos and Metis peoples and their problems of cultural transition. Since World War II, they have had to cope with the rapidly growing domination of southern culture as it appears in the schools, government administration and through the various media of public communication. The outward sophistication and complex technology of the highly organized social and economic way of life of the twentieth century makes the adjustment all the more difficult. No longer does a knowledge of the rudiments of white culture suffice. Now years of schooling are needed to give even a foothold in the changing society of the Territories. The Federal and Territorial Governments can provide the various social services such as education, welfare, health and housing that ease the difficulties of transition. However, success will depend largely on whether the native peoples can find the means to support themselves in the changing society without government assistance and obtain sufficient economic independence to find their place in Canadian society by themselves.

The present population of the Territories is divided into two basic economic groups. The first group, comprising most of the white population, has income well above the national average. The second group includes most of the native peoples and is characterized by extremely low cash income levels. As long as this group is employed primarily in resource harvesting, there is a possibility that the growth in their total personal income will not keep pace with inflation and their birth rate. The only apparent source of increased cash income appears to be the skilled and semi-skilled trades for which much training is needed.

The economy of the Northwest Territories is limited in its diversity with most economic activity being generated by mining, transportation, exploration and government expenditures. The primary industries based on fish, fur and forest products are of secondary economic importance. The retail trades, coupled with other servicing industries, comprise a relatively small segment of the economy. At least 80 per cent of all commercial activity is concentrated in the Mackenzie River Valley. This pattern is not likely to change very much in the future. Tourism offers a good opportunity for expanding income and employment. However, it is in the resource-based industries of mining, petroleum and gas that future growth in the economic stature of the Northwest Territories must depend.

Both social and production capital, except for very small quantities generated locally, must be imported into the Territories. It has only been within the last few years that the Canadian economy has been able to make resource development in the provinces a viable base for expanding employment, and even then large amounts of foreign capital were required. If forecasts of Canada's potential growth are realized, there will be a strong demand for all available Canadian capital funds in the near future. Since the population of Canada is still

of insufficient size to cause any real northward-moving economic impetus it would appear that pressure to bring industrial development into the North in the near future is likely to come as much from other nations requiring resources and resource products as from an inherent need for these products originating in southern Canada. How successfully the Northwest Territories can compete for these capital funds will have an important bearing on the rate of its future development.

Although the present level of economic development in the Territories does not provide a sufficient tax base for self-sustained government operations, the tempo of political development is increasing. Local government in varying degrees is gradually being extended to the larger communities. The Federal Government has given notice of its intention to extend the franchise in territorial elections to all residents and the Council has taken the first steps to set up electoral districts in the eastern Arctic. Any recommendations on the future form of the territorial government must be based on a full understanding of the social, economic and constitutional realities of the Territories. It is hoped that this paper has helped to identify and describe, in some measure, conditions in the Northwest Territories as they exist today.

TERMS OF REFERENCE AND ASSUMPTIONS FOR PART II

Terms of Reference

The terms of reference for Part II, The Economic Base, were: to describe the present economic structure of the Northwest Territories; to review the short-term past patterns of change in the territorial economy; to, where possible and relevant, compare the economy of the Northwest Territories with that of certain provinces; and to look into the economic prospects for the Northwest Territories for the next five years.

Assumptions

This study, like others of a similar nature, is based on several all-important assumptions concerning the future. The assumptions used in this study pertaining to the next five years are given below.

1. There will be no major war nor will there be any reason to defend Canadian territory from military invasion.
2. The Canadian economy in general will continue to expand for the next five years at or near the average rate for the past five years.
3. Canada's immigration policy over the last decade will not be altered materially.
4. International and North American supply-demand relationships for territorial mineral products will continue to follow their present trends.
5. Technological advances during the next five years will not make obsolete territorial resources nor will they alter existing modes of transportation.
6. The movement of people from rural to urban centres will continue and there will be no programs in North America to put people back on the land.
7. Food consumption patterns and trends in North America will not be reversed.
8. There will be no change in the United States price for gold nor will there be a change in the present U.S.-Canadian dollar relationship.

THE RESOURCES

Continued emphasis has been placed on the economic development of the Northwest Territories. This depends largely on the available resources, a brief inventory of which is given here in support of the economic analysis in Part II.

NON-RENEWABLE RESOURCES

Minerals

There are 1,711,000 square miles of Precambrian rock in Canada which are favourable for mineral deposition. In the Territories there are 710,000 square miles of Precambrian and 100,000 square miles of Paleozoic rock favourable for minerals. Base metals, such as those found at Pine Point on the south shore of Great Slave Lake, occur in sedimentary rock. There are approximately 555,000 square miles of sedimentary rock in the Territories which may contain base metal deposits.

In the Mackenzie Valley the major mineral resources are gold, copper, nickel, lead, zinc, silver, pitchblende, iron and tungsten. The Yellowknife gold belt, extending northward from Great Slave Lake, is one of the best known gold producing areas in Canada. Four mines are in operation and five potential producers could begin production if the price of gold increases. Gold has been found in the younger sediments east of Yellowknife, along a narrow belt from Prelude Lake north to Itchen Lake. Additional exploration has been conducted in an east-west belt from Itchen Lake to Contwoyto Lake and in 1963, gold was found south of Coronation Gulf.

Base metals including copper, nickel, lead and zinc, have been found north of the eastern end of Great Slave Lake as well as in the vicinity of Nonacho Lake to the south. Large deposits of lead and zinc have been outlined in a sedimentary area at Pine Point. Lead

and zinc have also been found in sediments near Sulphur Bay and Campbell Lake in the vicinity of Inuvik. Copper occurs west of Fort McPherson in the Redstone Valley area of the Mackenzie Mountains.

Pitchblendes and silver have been mined in the Great Slave Lake area along the sedimentary-volcanic contact zone south of Great Bear Lake. A large supply of high-grade tungsten ore has been outlined in the Flat River Valley, close to the Yukon boundary. Other deposits of tungsten have been found, but are not considered of sufficient size and grade to warrant development in the immediate future. Immense deposits of iron ore have been outlined along the Northwest Territories-Yukon boundary, but development will depend on marketing and transportation facilities.

The mineral resources of the Arctic are less well known than those of the Mackenzie Valley because the Arctic is remote and travel is more difficult. A mineral belt extends from Selwyn Lake in a north-easterly direction to Rankin Inlet, but there has been very little development along this belt. Iron ore has been found inland west of Eskimo Point, but there has been no development on these showings. Iron has also been found on the Belcher Islands where 900 million tons of ore have been indicated by diamond drilling. In the past two years there has been considerable exploration and development of a high-grade iron ore deposit near the Mary River on northern Baffin Island. To date, over 125 million tons of this high-grade ore have been outlined and this figure may be doubled by future drilling.

Sulphides containing minor amounts of copper and nickel have been found on the southwest coast of Baffin Island. Graphite occurs in many places between Lake Harbour and Amadjuak. At Strathcona Sound on northern Baffin Island, sulphides containing lead and zinc have been located. Additional drilling will continue within the next two years.

On Little Cornwallis Island, in the Arctic Islands, mineral claims containing lead-zinc deposits were staked in 1960, and exploratory activity has continued since that time.

Oil and Gas

There are two extremely large areas in the Northwest Territories where it is expected oil and gas can be found in quantity. These are the Mackenzie River region from the 60th parallel to the Delta between the mountains on the west and the Precambrian Shield on the east, and the Arctic Islands, particularly the Queen Elizabeth Islands group. In those two regions are found thousands of feet of sediments which may contain oil and gas. It has been stated that the Arctic Islands represent one of the most attractive geological basins in the world yet remaining to be explored for oil and gas. Approximately 40 million acres of land are under exploration in the Mackenzie region and over 50 million acres in the Arctic Islands. Approximately 60 million dollars have been expended in the past four years in the search for oil. Although the presence of oil and gas has been confirmed by the discovery of five potential gas fields between Fort Liard and Great Slave Lake, the Norman Wells oil field discovered in 1920, and the extensive oil sands in the Arctic Islands, the ultimate resources of oil and gas in the Northwest Territories can only be surmised. They are probably very large, and during the next 10 to 15 years it should be possible to form a more reliable estimate of their potential.

Intensive exploration has been going on for almost 20 years in Alberta at a far higher rate than in the Territories and large oil fields are still being discovered. The factor which controls the rate of exploration in the Territories, to a greater extent than in other areas, is the economic situation. Because of long overland or ice-covered routes to potential markets, the cost of transportation is likely to be high. The cost of exploration is also higher. Thus, the return on investment is likely to be lower than in southern Canada unless extremely large fields can be found. As long as cheaper and more economically attractive areas are available for exploration elsewhere in the world, the capital invested in northern exploration may remain relatively

modest. However, two factors are expected to reverse this situation during the present decade. A large discovery would lend a tremendous impetus and, secondly, the world demand for petroleum is expanding at a rate not envisaged by even the most optimistic economist three or four years ago.

The known reserves of oil and gas in the Territories are relatively small. They are probably in the order of 50 million barrels of oil in Norman Wells and several hundred million cubic feet of natural gas in the Liard-Great Slave Lake region. These are insufficient to warrant connection by pipeline to southern markets.

There are various ways in which an estimate of the possible oil and gas reserves may be made in areas which are relatively unexplored. The most satisfactory and reliable method is that of estimating the volume of sediments within the basins and comparing these with more developed sedimentary basins elsewhere.

TABLE 1
Comparison of Oil and Gas Bearing Sediments
by Size and Volume for the
Western Provinces and Territories*

Area	Size (Sq. Miles)	Volume of Sediment (Cubic Miles)
Manitoba and Saskatchewan.....	176,623	168,072
Alberta	236,893	341,715
British Columbia	50,688	115,318
Yukon	43,000	64,500
N.W.T. (Mackenzie Region)	204,794	267,133
Arctic Islands	350,000	663,500
Total	1,061,998	1,620,238

*From the Department of Northern Affairs and National Resources. Unless otherwise specified source material is from the Department.

The oil and gas reserves found in the sediments of the Prairie Provinces and north-eastern British Columbia to date amount to

approximately 9.5 million barrels of oil and 48 trillion cubic feet of gas, with more being found every day. A comparison of the total volume of sediments of these areas with the volume of the Yukon, Mackenzie region and Arctic Islands, will suggest what might be found there (Table 1). That comparison could be misleading, since the geological conditions are not the same and may have been less favourable or perhaps more favourable to the accumulation and preservation of oil reserves. Great care must be taken to assess the future potential of oil in the North realistically. It is generally considered that large reserves will be found, but this is not a certainty.

RENEWABLE RESOURCES

Renewable resources in the Territories fall into the four broad categories of water, soil, forests, and fisheries and wildlife. Within these main resource categories certain resource-based industries will be considered: hydro-electric resources with water, agriculture with soils, and tourism with fisheries and wildlife. Water and soil are the primary resources, for all others depend upon them.

Water

The water resources of the Northwest Territories are abundant in relation to existing demands. At present, water requirements are limited to the domestic needs of small scattered communities and to the industrial water requirements summarized in Table 2A and 2B.

TABLE 2A
Existing Industrial Use of Water in the Northwest Territories

Location of Industrial Use*	Daily Requirement in Millions of Gallons
Pine Point.....	5
Yellowknife and Area ..	3
Norman Wells Refinery .	1
Elsewhere	1
Total	10

*In the Mackenzie and Arctic Districts.

TABLE 2B
Existing Domestic Use of Water in the Northwest Territories

Towns with organized water supply system	Type of distribution	Population served 1961 Census
Cambridge Bay	Trucked	531
Fort McPherson	Partial utilidor and trucked	509
Fort Providence	Trucked	402
Fort Resolution.....	Trucked	485
Fort Simpson.....	Buried pipe and trucked	563
Fort Smith	Buried pipe.....	1,681
Hay River.....	Trucked	1,338
Inuvik.....	Utilidor and trucked.....	1,248
Norman Wells.....	Utilidor	297
Pine Point.....	Buried pipe.....	(in 1964) 600
Rae.....	Partial utilidor and trucked	522
Yellowknife.....	Buried pipe.....	3,245
Frobisher Bay.....	Partial utilidor and trucked	1,426
Rankin Inlet	Utilidor	320
Total.....		13,167

Present domestic and industrial use combined are roughly equivalent to the municipal requirements of one city of 100,000 people. Water, however, may become one of the most important future resources in the Territories.

An inventory of water available for future development must be considered in a general way because a useful forecast of water needs cannot be made until economic growth patterns in the area become more predictable. By considering separately the four principal basins in the Yukon and Northwest Territories, it is possible to compare their total annual discharge with the discharge of rivers in the more populous areas of Canada. The water supply and hydro-power resources of both Territories are referred to together, since it is not feasible to split these resources strictly on the boundary. It can be assumed that these northern river basins will provide as much water for development purposes as do river basins with flows of similar magnitude in other parts of Canada. To make these comparisons it has been necessary to estimate the total annual dis-

charge of large ungauged areas based on recent measurements of a few typical rivers. For that reason they must be considered first approximations.

The Yukon River and its tributaries, which drain most of the Yukon Territory, have a total annual discharge similar to that of the Canadian portion of the Columbia River basin. The Mackenzie River at the mouth has a total annual discharge comparable to that of the St. Lawrence River near Quebec. The many streams flowing to the Arctic, east of the Mackenzie Basin, have a combined annual runoff similar to that of the Fraser River at Hope, British Columbia. The combined annual flow of the streams which lie east of the Mackenzie Basin and flow into Hudson Bay is slightly less.

The Northwest Territories and Yukon, then, might be said to have a total water supply equal to two Fraser Rivers, one Columbia River, and a St. Lawrence River. From the standpoint of future water use for municipal and industrial development, the Territories are richly endowed.

TABLE 3
Existing Electric Generating Facilities in the Yukon and Northwest Territories

Development	River	Owner	Installed capacity in kilowatts
Whitehorse Rapids	Yukon River	Northern Canada Power Commission	11,390
North Fork	Klondike River	Yukon Consolidated Gold Corporation	10,050
Snare Falls	Snare River	Northern Canada Power Commission	7,000
Snare Rapids	Snare River	Northern Canada Power Commission	7,000
Bluefish Lake	Yellowknife River	Consolidated Mining and Smelting Co.	3,360
Mayo River	Mayo River	Northern Canada Power Commission	5,100
Porter Creek	Porter Creek	Yukon Hydro Co.	1,000
McIntyre Creek	McIntyre Creek	Yukon Hydro Co.	650
Total hydro-electric			45,550
Total thermal			29,800
Total (all plants)			75,350
Facilities under Construction			
Twin Gorges	Taltson River	Northern Canada Power Commission	18,000

Principal Power Rivers of the Yukon and Northwest Territories

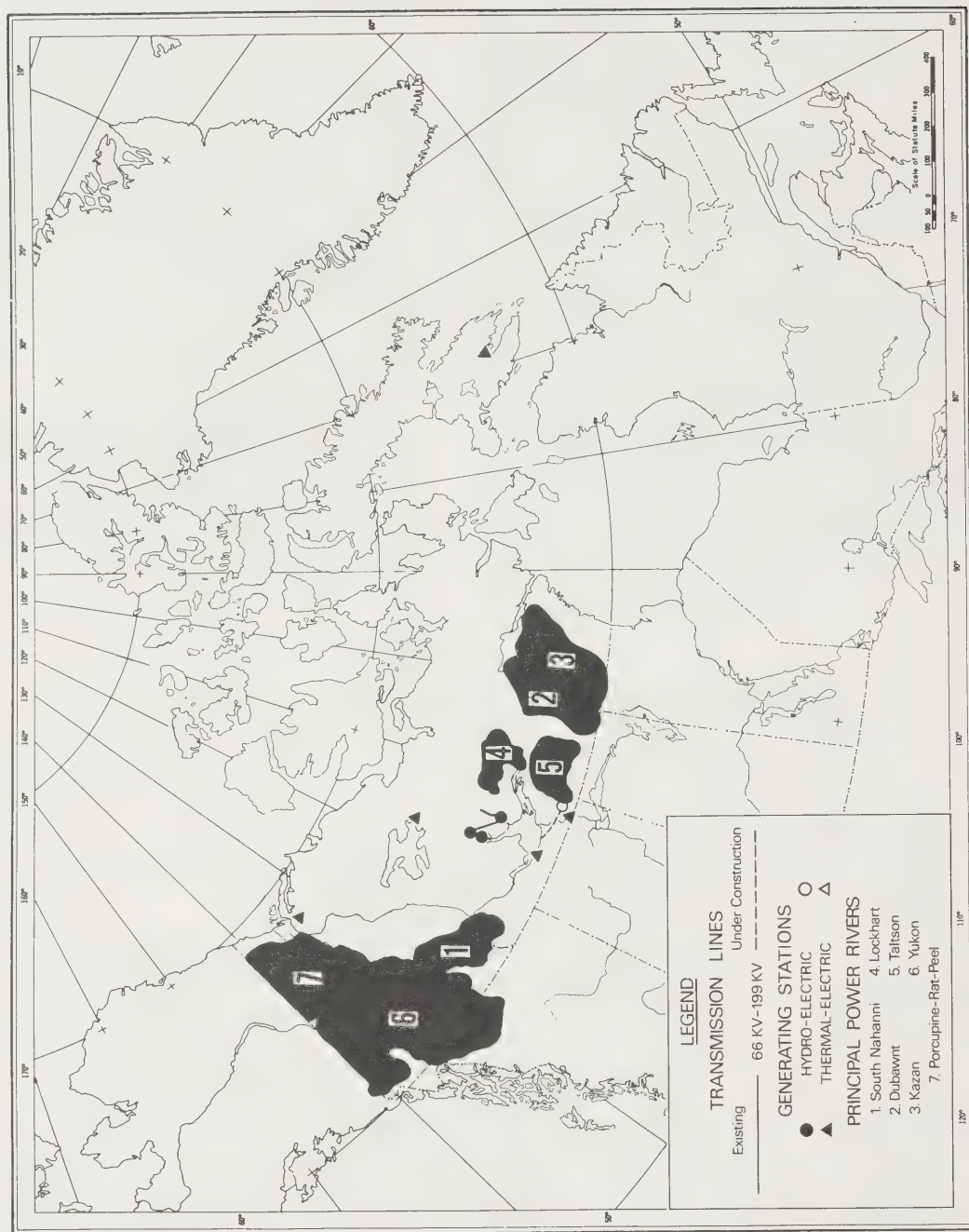


FIGURE 1

Hydro-electric development in the Yukon and Northwest Territories is not extensive because existing demands for electrical power are small and scattered. At present, development of major power sites to serve these small requirements is not economically sound, and neither is the construction of transmission lines to large centres in the south (Table 3). As a result, requirements for electricity are now met in some areas by small hydro plants, in some areas by diesel units, and in others by steam power plants.

Table 4 shows that the demand for electrical energy grew from 84,800 megawatt-hours in 1950 to 231,000 megawatt-hours in 1962, an annual rate of load growth of about 9 per cent per year. That exceeds the 6.6 per cent growth rate for Canada as a whole for the same period, but since actual energy consumption is very small, a comparison may be misleading. At the present time the mining industry in the Territories consumes 67 per cent of the total electric energy generated there and hence the growth in overall consumption is closely tied to growth in mineral production and to new mining developments.

TABLE 4
Electric Energy Generated in the Yukon and Northwest Territories in Thousands of Kilowatt-Hours

	1950	1955	1960	1961	1962
Hydro.	73,200	115,600	159,800	182,000	198,400
Thermal. ...	11,600	15,700	29,300	36,100	32,600
Total.	84,800	131,300	189,100	218,100	231,000

The potential hydro-power resources of the Territories, particularly those of the Yukon, are considerable. Not all potential hydro-power sites have been identified nor have firm figures been developed in all areas for available flow and available head. Development will depend on whether the demand is within economic transmission distance. However, potential hydro-power resources have been estimated for the shaded areas on Figure 1 and are shown in Table 5.

TABLE 5
Hydro Potential* of Principal Rivers in the Yukon and Northwest Territories

Key to area on Figure 1	Name of River	Number of Sites	Underdeveloped Potential in K.W.
<u>NORTHWEST TERRITORIES</u>			
(1).....	South Nahanni	(4)	375,000
(2).....	Dubawnt	(8)	246,000
(3).....	Kazan	(4)	135,000
(4).....	Lockhart	(5)	105,000
(5).....	Taltson	(11)	120,000
Total for N.W.T.			981,000
<u>YUKON TERRITORY</u>			
(6).....	Yukon and tributaries	(8)	4,000,000
<u>YUKON AND N.W.T.</u>			
(7).....	Porcupine-Rat-Peel	(4)	1,200,000
Total			6,181,000

*Based on flow available 50 per cent of the time (Q50).



Potentially Arable Lands in the NWT

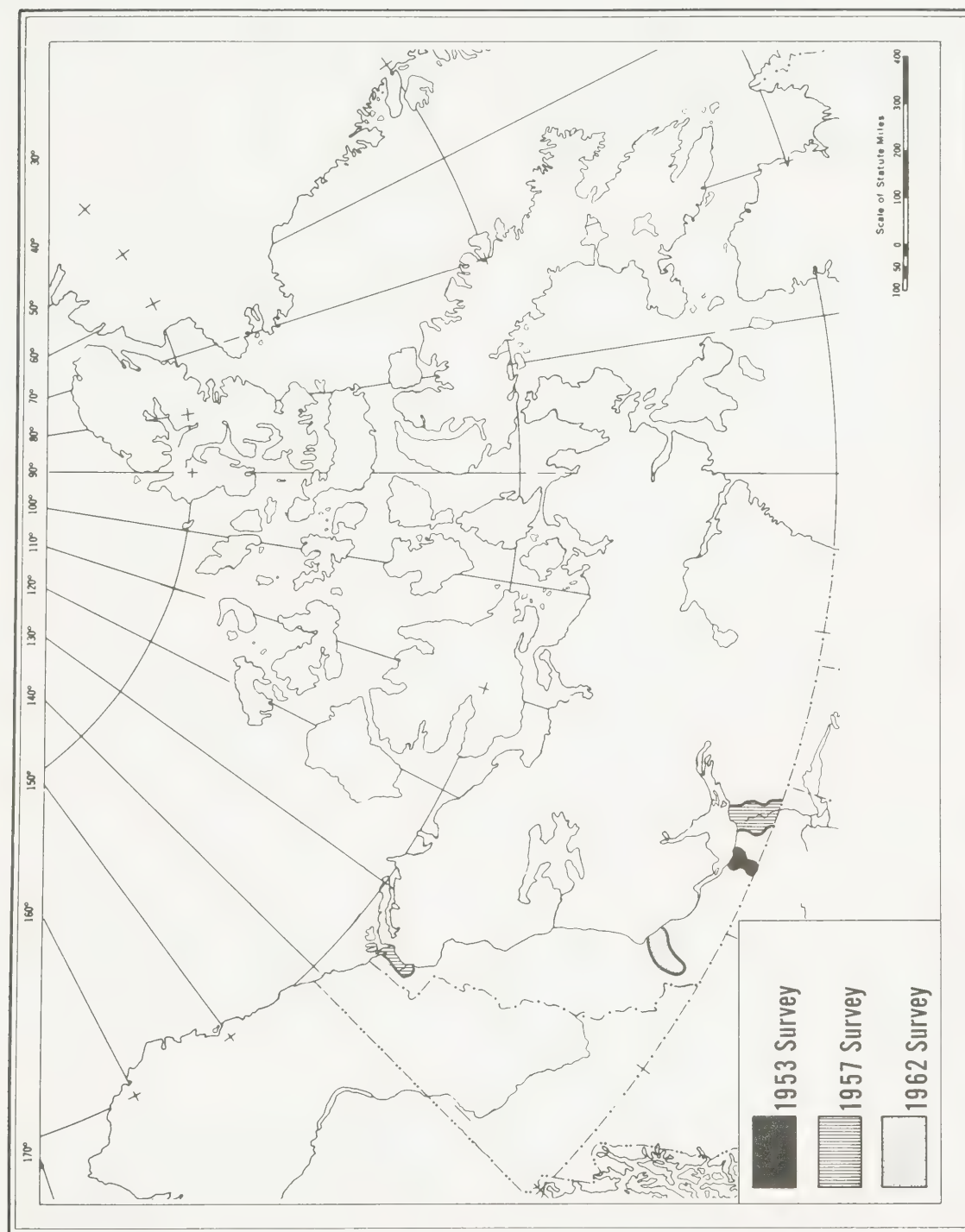


FIGURE 3

Soils

In the Territories, fertile soils are scarce and the growing season shortens towards the north. Conditions are not favourable for economic agriculture. Animal populations, which depend on plant growth, are limited in numbers. The principal soil types of the Northwest Territories are shown in Figure 2.

Potentially arable lands consist of alluvial river-bottom deposits of sandy or silty loams. These are fertile and readily cultivated. Higher river terraces and heavy glacial tills are less fertile, but capable of producing crops under proper cultivation. Agricultural use of these soils is controlled by climatic features, such as mean temperatures, length of frost-free periods, hours of daylight and precipitation. The deep layer of permanently frozen subsoil interferes with soil development and inhibits drainage.

In the Territories, soils with agricultural potential are restricted to the Mackenzie District and are located generally in the river valleys of the Slave, Hay, Liard and Mackenzie Rivers (Figure 3). The Department of Agriculture estimates that there are four million acres of potentially arable lands in the Mackenzie District. The largest area, two million acres, is located along the Slave River, north of Fort Smith.

Ratings of potentially arable soils in the Slave River Lowlands north of Fort Smith are shown in Table 6.

A further one million acres lie along the Hay and Liard Rivers and the Mackenzie River downstream to Fort Simpson. There is an estimated one million acres of potentially arable land in the Mackenzie River Valley downstream from Fort Simpson. No detailed classification is available for these areas. The land along the Hay River and the southwest shores of Great Slave Lake is considered to have fair potential. The lowlands peripheral to the Liard River are an extension of the Peace River Block and are considered to have a high potential.

The entire Arctic lies within the area of permanently frozen subsoils. The Department

of Agriculture states that there is no potentially arable land suitable for commercial agriculture in that area. Small pockets of soil exist around some settlements, which, with treatment, could support small private gardens.

TABLE 6

Ratings of Potentially Arable Soils in the Slave River Lowlands* (between Fort Smith and Great Slave Lake)

Rating	Area of Arability Classes	
	Acres	Per Cent
Class 1 (arable — no limitation)	397,300	18.3
Class 2 (moderate limitation)..	1,182,400	54.3
Class 3 (requires intensive management).....	116,300	5.4
Class 4 (non-arable).....	356,000	16.2
Lakes and Rivers.....	127,000	5.8
Total.....	2,179,000	100.0

*Ray, J.B. and Leahey, A.: *Reconnaissance Soil Survey of the Slave River Lowland in the Northwest Territories of Canada*. Report Canada Department Agriculture, Queen's Printer, Ottawa, 1957.

Forests

Practically all the potentially arable land in the Territories is now covered with forests of spruce and poplar. These forests support a small forest industry producing saw timber, pit props, pilings and fuel for local consumption.

The forests of the Territories may be classified as potentially merchantable, or productive, and non-productive. Merchantability refers to the value of wood products for lumber, poles, pulp and firewood. Non-productive forests have no cash value, but maintain and conserve water, fish and wildlife resources.

One of the major factors limiting tree distribution and tree growth in Northern Canada is permafrost or permanently frozen ground. That condition is found throughout the District of Mackenzie, except for a small area along the Liard River and a narrow belt near latitude 60 degrees N. The permafrost lowers the soil temperature and inhibits tree growth.

Almost all commercial timber suitable for saw timber, pit props and pilings is to be found in the valleys of the Mackenzie River and its major tributaries. Except for the lower slopes along the Liard River and occasional small patches in other sections, trees of saw-timber quality are confined to the rich alluvial soils in the river valleys, particularly those which are infrequently flooded. Patches of larger trees may be found along the junction of the sedimentary and igneous rocks between Great Bear and Great Slave Lakes, along the eastern side of the Franklin Mountains, and at the headwaters of the Taltson River.

Few tree species are capable of withstanding the rigorous climate of the Northwest

Territories. Only on rich sites do white spruce, balsam, poplar and, to a very limited extent, trembling aspen reach saw-timber size, and of these only white spruce is being used. In poorer areas, jack pine and trembling aspen are found alone or mixed with white spruce on the drier sites, and black spruce and varieties of white birch grow on the wetter and more acid soils.

Forest inventories in the Mackenzie indicate 21.5 million acres of productive forest and 103 million acres of non-productive forests. Inventories have been made of the forests of the Slave River from Fort Smith to Great Slave Lake, the Liard River and the Mackenzie River downstream to Norman Wells. Estimated timber volumes for the Mackenzie District are shown in Table 7. Provisional forest maps covering an additional 11,500 square miles have been prepared from air photographs for a proposed classification of timber volumes of the Mackenzie River and its tributaries downstream from Norman Wells.

TABLE 7
Areas Mapped and Estimated Timber Volumes
Mackenzie District, Northwest Territories*

Locality	Area Mapped in Sq. Miles	In Thousands ft. bd. meas. for Trees 10" D. B. H. and Greater**	Species	Cords (of 85 cu.ft.) for Trees 4" D. B. H. and Greater — all Species
Slave River.....	1,185	85,000	white spruce	not compiled
Liard River	4,027	2,757,000	white spruce	11,274,000 (soft woods)
		2,427,000	poplar	9,551,000 (hard woods)
Mackenzie River	4,500	206,000	white spruce	not compiled

*From Robinson, J.M.: "Forest Resources of the Northwest Territories Portion of the Mackenzie River Basin", *Polar Record* 10(66): 231-236, 1960.

**D.B.H. : Diameter Breast Height.

Fish

In the Territories, fish have long provided subsistence food for Indians and Eskimos. Because production and growth rates in the arctic and sub-Arctic are low, extensive commercial exploitation has not developed.

The fresh water fisheries of the Territories can be conveniently considered on the following geographic basis, Great Slave Lake, Great Bear Lake and other inland lakes and rivers. After studies of Great Slave Lake, the Fisheries Research Board recommended an annual quota as the basis for a sustained commercial harvest and commercial fishery of the lake began in 1945. Lately, other large lakes have been included in the commercial operation.

At present, the commercial fishery on Great Slave Lake is conducted from December 1 to March 31, and from May 15 to September 30. In 1963-64 the total commercial harvest for Great Slave Lake and other lakes in the region was 7,076,800 pounds with a landed value of \$833,280 and a market value of \$1,214,980 f.o.b. Hay River. Whitefish and lake trout constitute 93 per cent of the total catch. Other species include Inconnu, pike and pickerel.

Studies of Great Bear Lake indicate that it has a much smaller fish stock and potential. Commercial fishing has not been permitted, but domestic and sport fishing have been allowed. In the summer of 1964, some 1,000 tourists fished Great Bear Lake from four camps situated around the lake. The Fisheries Research Board has conducted surveys of most other large lakes in the Territories and found that some were suitable for commercial fishing. As many of these lakes were used for subsistence fishing by Indians and Eskimos or had good potential for sport fishing, the Department of Fisheries initiated a program to meet all these conflicting demands.

The Territories have approximately 53,000 square miles of fresh water, the fisheries of which have scarcely been touched. Apart from occasional small drainage systems, only in one area, Great Slave Lake, has exploitation resulted in a reduction of the average size of fish. Even in that case it is not known whether optimum production has been attained. Available catch statistics indicate that inland fisheries in the Territories have a sustained

production potential of approximately 340 pounds per square mile or an annual production of 18 million pounds. This estimate is conservative, and potential production may be double that amount, or one pound per acre per year, instead of half a pound per acre per year. Certainly the slow growth rate of all species limits production.

Commercial fisheries depend primarily on four species: two species of whitefish, lake trout and arctic char, which comprise about 60 per cent of the potential for all species. Domestic fisheries use a wider range of species, including two dominant groups not used by the commercial fishery, lake herring and suckers. The proportion usable by domestic fisheries could amount to 90 per cent of the potential. Sport fisheries could utilize lake trout, arctic char, grayling and northern pike. These species probably amount to 30 per cent of the potential.

Preliminary results of investigations of the fish resources of the arctic coastal region suggest that fish stocks important for local use exist in all major rivers. These stocks will be of chief value for domestic use, sport fishing and possibly for small co-operative fisheries.

The sustained annual production potential for arctic char in the Territories is conservatively estimated by the Fisheries Research Board at one million pounds. Of that production the proportion available to the sport fisheries would probably be restricted to 60 or 70 per cent. Availability of char to commercial fisheries would probably be less than 40 per cent of the total. Domestic fisheries could utilize 90 per cent of the arctic char potential.

Little is known of the potential of the other marine fish resources. In a few locations, sea herring, capelin, smelt and several species of cod are used. Present utilization is small, and potential production estimates are dependent on further life-history studies. A very crude estimate of total sustained annual marine production of usable species fishable at this time would be about five million pounds.

The marine mammals of economic importance in the Territories are seals—ringed, bearded and harp; walrus; and whales, white and narwhal. The great baleen whales such as

the bowhead were so decimated by the whalers that they are now under protection. The marine mammals are primarily useful to the Eskimo for meat, hides and other by-products. The current commercial demand for seal skins has produced a considerable cash income for coastal Eskimo groups. Recent commercial fisheries of marine mammals have been limited primarily to the white whale.

Harvest data for marine mammals are incomplete because of the variable and incomplete sources of reporting. The estimated catches of marine mammals in the Territories, including Port Burwell and the Belcher Islands, and excluding Quebec and Churchill, Manitoba, are given in Table 8.

TABLE 8

Estimated Harvest of Marine Mammals in the Northwest Territories*

Species	Mean Estimated Annual Harvest	1962-63	1963-64
Walrus.....	510		
White whale...	700		
Narwhal.....	200		
Ring seal.....		43,000	60,000
Other seals ... (mainly Bearded, but including some Harp Seal)		600	1,000
Bowhead whale			1

*From the Fisheries Research Board of Canada.

In general, catches of ringed seals are believed to be approaching the potential sustained yield. The harvest of walrus cannot be increased without detriment to the stocks, except in Lancaster Sound and eastern Baffin Island. Catches of beluga are increasing and

quite intensive in Hudson Bay, including Churchill, but the species is valuable to the local economy and its exploitation should be carefully watched. The bowhead whales are increasing after long protection from commercial hunting and represent a future resource for northern peoples.

Wildlife

The wildlife resources of the Territories are not abundant. Large areas of the High Arctic are almost devoid of terrestrial wildlife. Soils and vegetation are not rich and sufficiently varied to support large concentrations of wildlife. The rigorous climate imposes further restrictions. In the North, particularly at higher latitudes, animal populations are characterized by cycles of abundance and scarcity.

Wildlife is important in the northern economy chiefly for food, clothing and trade. Other uses are sport hunting, production of specialty food products and as a tourist attraction. In addition, the North provides breeding grounds for migratory waterfowl and habitat for certain rare animals.

Fifteen species of wild fur bearers are trapped or hunted in the Territories. The important species, in order of dollar value for 1963-64 were: arctic fox, marten, mink, muskrat and beaver. In the post-war period, total catch has ranged from a high of 922,000 pelts in 1948-49 to a low of 236,000 in 1958-59.

Gross value of production has varied from \$2,000,000 in 1950-51 to \$733,000 in 1956-57 (the lowest in 30 years). In 1963-64 it was \$1,163,000 (not including seal skins), or 9 per cent of the national total for wild furs. Fur production and value by species for 1963-64 are given in Table 9.

The subsistence value of meat of wild game is of great importance to Indians, Eskimos and a few whites. It is particularly important to trappers and their families who must depend on "country produce". Meat of wild animals is also important to trappers as a source of dog food.

TABLE 9

Northwest Territories Fur Production and Value
1963-64

Species	No. of Pelts	Average Value in Dollars	Total Value in Dollars
Bear, polar	447	68.91	30,803
Bear, other	29	11.40	331
Beaver	10,349	12.09	125,119
Coyote	36	4.50	162
Fisher	29	10.43	302
Fox, black	1	—	—
Fox, blue	144	5.33	768
Fox, cross	195	4.44	866
Fox, red	611	5.00	3,055
Fox, silver	30	7.98	239
Fox, white	29,920	14.98	448,202
Lynx	2,670	11.98	31,987
Marten	18,814	10.97	206,390
Mink	5,839	26.57	155,142
Muskrat	133,054	1.08	143,698
Otter	204	19.24	3,925
Squirrel	7,409	.39	2,890
Weasel	8,657	.67	5,800
Wolf	207	12.16	2,517
Wolverine	50	16.07	804
Seal*	46,962	14.73	691,707
Total Number of Pelts	298,551	—	—
Total Value of Production (including seal skins)	—	—	1,854,707

*From the Dominion Bureau of Statistics.

The amount and subsistence value of game meat, including fish, marine mammals and birds' eggs for 1962-63, are shown in Table 10, as 9,494,040 pounds with an estimated gross value of \$3,528,270.

It is estimated that 2,000,000 geese or 70 per cent of the continental goose population breed in the Territories, and 35,000 to 50,000 are harvested by northern Eskimos and Indians. The main harvest of 700,000 geese is made by hunters in the United States and Canada. Of

that total, 150,000 are harvested by native hunters in the northern regions of the provinces, who depend upon autumn and spring goose hunts for a major source of meat. An estimated 10 to 15 per cent of the continental sporting duck production comes from the Territories.

Sport hunting by residents in the Mackenzie Mountains big game zone was permitted by a special licence in 1961. One hundred and six licences were sold in 1963. The chief big game species are moose, mountain caribou, Dall sheep, mountain goat, grizzly bear and black bear. In 1964, sport hunting by non-residents was permitted in the Mackenzie Mountains on an experimental basis, and eight licences were sold. Six outfitters are currently licensed to cater to this trade, and a system of licensed guides has been set up. Territorial revenue from sport hunting licences amounted to \$1,060 in 1963.

The production of specialty food products from wildlife and fish resources for local consumption and export has recently been introduced and promoted by the Department of Northern Affairs and National Resources. Products include reindeer meat, liver and tongue; fish, frozen, smoked, or canned; and canned meat of marine mammals. Harvesting, dressing and processing are usually handled through an Eskimo co-operative.

The Territories provide habitat for certain rare species of mammals and birds. Mammals include the muskox, caribou, polar bear, barren-ground grizzly, walrus and great whales. The muskox population of the mainland and Arctic Islands is estimated at 1,500 and 8,500 animals, respectively. The barren-ground caribou of the mainland numbered some two million animals before 1900. The population was estimated at 670,000 in 1949, and only 270,000 in 1955. Recent estimates place the population at 200,000.

Of the birds, the rare whooping crane is best known. There are only 42 birds in the wild, and they nest in inaccessible marshes in the northwest corner of Wood Buffalo National Park. The world population of greater snow geese and Ross' goose, estimated to number 70,000 and 35,000, respectively, nest primarily on Bylot Island, off Northern Baffin Island, and in the Queen Maud Gulf area of the mainland.

TABLE 10
Numbers, Consumption and Value of Fish and Game
Taken by the Holders of General Hunting Licences
In the Northwest Territories, 1962-63.

Item	No. Taken	Average Weight* Pounds	Total Weight Pounds	Value per Pound in Dollars**	Total Value in Dollars
Fish			3,500,000	.50	525,000
Caribou	16,172	100	1,617,200	.50	808,600
Moose.....	1,678	350	587,300	.50	293,650
Buffalo.....	101	600	60,600	.50	30,300
Bear, black.....	50	250	1,750	.50	875
Bear, polar	465	400	186,000	.50	98,000
Walrus	510	1,100	561,000	.50	280,500
Whales	900	500	450,000	.50	225,000
Seals	43,000	50	2,150,000	.50	1,075,000
Other Game					
Mammals	44	75	3,300	.50	1,650
Muskrat	175,000	1	175,000	.50	87,500
Beaver.....	7,500	15	112,500	.50	56,250
Upland Game					
Birds	41,606	.66	27,800	.50	13,900
Ducks	27,505	1.50	41,260	.50	20,630
Geese	5,082	4	20,330	.50	10,165
Birds eggs (Doz.) ..	5,000			.25	1,250
Total					
Consumption					
in Pounds			9,494,040		
Total Value					
in Dollars					3,528,270

* $\frac{2}{3}$ live weight.

**Value assigned to foods taken by a hunter for his own use, but based on prices he would have to pay for food of equivalent value.

The opportunity to fish and observe wildlife in wilderness country are two of the most important attractions upon which the tourist industry is based. Both are available in the Territories with its wild northern terrain and thousands of lakes. Tourism is an expanding service industry in the Territories, particularly the Mackenzie Valley. From a small start in the mid-fifties, it reached 5,000 visitors in 1964.

Wildlife has always played an important role in the history and economy of the Territories. The great whales and the fur bearers were incentives to northern exploration, trade, transportation and settlement. That role has now been taken over by minerals and fuels. Nevertheless, game and fur still continue to contribute to the cash income and subsistence of a large proportion of the Indian and Eskimo population. Table 11 gives the value of fish and wildlife products in the Territories in 1964.

TABLE 11
Value of Wildlife and Fish Products
in the Northwest Territories, 1963-64.

Resource	Raw Value (Dollars)
Commercial fish (market value)*	1,214,980
Native fishery	17,250
Wild fur**	1,854,707
Subsistence value meat	3,528,270
Reindeer (meat and hides)	53,560
Buffalo (meat)	20,420
Ivory (Walrus and Narwhal)*	2,330
Specialty food products	2,960
Total value	6,694,479

*From the Department of Fisheries.

**Including Seal Skins.

APPENDIX III

TRANSPORTATION AND TELECOMMUNICATIONS

TRANSPORTATION

A key factor in many of the economic equations underlying industrial and resource development in the North is the availability and cost of transportation and communications. With the exception of lateral sea transportation along the western arctic coast, all major transportation routes in the Territories run from south to north. Essentially, they serve to connect a number of scattered northern settlements to main supply communication points in the South. Water transportation established this pattern and the more flexible air routes have adhered to it because the centres of population remain adjacent to the long-established river and sea routes. On this basis, there are three main access routes; the Mackenzie Valley in the west served largely from Edmonton; the west coast of Hudson Bay and the central Arctic served from Churchill and Winnipeg; and the islands of the eastern Arctic served by sea and air from Montreal and east coast ports.

The traditional transportation route into the western part of the Territories has been, of course, the Mackenzie River system. Today, this system still provides the principal means of bringing freight into the region. The season of open water varies along the great length of the route but the barges usually begin regular service down the river in mid-June. The Northern Transportation Company, a Crown Corporation which recently bought out its major competitor, Yellowknife Transportation Company, operates tugs and barges throughout the whole system starting at Waterways, Alberta, a terminus of the Northern Alberta Railways, and running down the Mackenzie and along the Arctic Coast to Spence Bay in the east and the Colville River in the west. From Waterways to the trans-shipping point at Tuktoyaktuk is a distance of 1700 miles. The major barrier in the system is the rapids near Fort Smith, which requires a 23 mile portage by road. Since Hay River has been served by highway it has received the larger share of the freight consigned to down-river communities. Shipping time from Hay River to Tuktoyaktuk is approximately one week. The Pine Point Railway is expected to increase the balance in favour of Hay River as the main departure point for river shipping. The water route and harbour facilities at Hay River and other points along the river are maintained by the Department of Transport.

Air service in the Mackenzie Valley is provided by Pacific Western Airlines which flies three times a week between Edmonton and Inuvik using four-engined aircraft. Pacific Western also operates a weekly (non-scheduled) flight to Coppermine and a flight every two weeks to Cambridge Bay. Fort Smith has eight scheduled flights a week from Edmonton; Yellowknife, six; and Hay River, three scheduled flights from Edmonton via Fort Smith. Smaller communities in the Mackenzie Valley receive flights once a week or once every two weeks, and local charter services are available at all main points on the scheduled routes. The Royal Canadian Mounted Police operate their own aircraft from Inuvik, Fort Smith and Frobisher Bay. Apart from this, government traffic uses commercial services. Major airports in the North are built and operated by the Department of Transport. Only the largest airports in the North are paved and some of the gravel runways can become unserviceable during the spring thaws. Resour-

ce development airstrips, financed on a shared basis between the resource developer and the Department of Northern Affairs, are scattered throughout the Territories.

The highway system in the Northwest Territories is composed of three major all-weather roads and a number of development and secondary roads in the Mackenzie Valley. The three major roads are the Mackenzie Highway which begins at the Alberta border and terminates just south of Fort Providence, the Yellowknife Highway which starts at this point and runs around Great Slave Lake to Yellowknife, and the Hay River Highway from Enterprise to Hay River. An eastward extension of the system is now under construction which will serve Hay River, Pine Point and Fort Smith. It is planned to gradually extend the Mackenzie Highway down the river valley, first to Fort Simpson and ultimately to Inuvik.

The ferry service across the Mackenzie River at Fort Providence, on which all traffic to Yellowknife depends, is discontinued at the time of freeze-up, usually in mid-October. Vehicles can cross on the river ice usually just before Christmas. The highway is closed sometime in the first half of April and the ferry service reopens in the latter half of May, about three weeks after break-up.

At present there are some 447 miles of main highways in the Territories, and 52 miles of local settlement roads, for a total of 499 miles, not counting the 250 miles of road in the Wood Buffalo National Park. Roads in the Territories are built and maintained by the Department of Northern Affairs, except for tote trails and mine access roads which are maintained by the mining company which benefits from them. For the ten-year period between 1954-55 and 1963-64, the Department of Northern Affairs spent over 24 million dollars on road construction in the Territories, and the maintenance costs for 1965-66 are estimated at over half a million dollars.

Winter roads are pushed through each year to such places as Fort Smith, Fort Simpson, and to Tundra and Discovery Mines. Trucking companies from Edmonton and Grimshaw operate on the highway system to Hay River and Yellowknife throughout the year and beyond the highways when the winter roads are usable. Canadian Coachways runs a regular bus service between Edmonton and Yellowknife.

In November 1964, the first ore shipment went out over the new railway between Grimshaw and Pine Point. The Territories' first railway, built by the Canadian National Railways at a cost of over 86 million dollars will be an important means of bringing freight into the Mackenzie Valley as well as taking northern ore to be refined in the South. There has not yet been time to see the full effects of this new transportation link.

In the Keewatin District the sea route to the settlements on the west coast of Hudson Bay is based on Churchill, Manitoba, where freight is brought in either via the Hudson Bay Railway or by sealift. This route is comparatively short and bulk shipments to individual settlements are often made as an extension to the sealift to the eastern Arctic Islands.

In the same regions, regular air service is provided by TransAir which flies five times weekly between Winnipeg and Churchill. Beyond Churchill, TransAir operates a weekly service to Rankin Inlet, Baker Lake and Eskimo Point. There are also flights scheduled twice a month to Whale Cove, Chesterfield Inlet and Coral Harbour, but these are not required to operate when no payload is available. TransAir also serves the major DEW Line centres of Cape Parry, Cambridge Bay, Hall Beach and Cape Dyer at least three times a week with flights from Winnipeg or Churchill. The smaller DEW Line sites are served by lateral flights on local charter. Thomas Lamb Airways has aircraft based in Churchill, and does a large volume of charter flying to points in the Keewatin District and the Arctic Islands.

The bulk of annual supplies going to points in the Arctic Islands moves by sealift out of Montreal, although Churchill is used as a back-up port. The Department of Transport coordinates the arctic sealift which is made up of a number of Canadian Coastguard vessels or ships on charter, sufficient to carry the large quantity of supplies in the short shipping season. With the exception of the Hudson's Bay Company, which has operated its own supply ships for many years, most freight going into the eastern Arctic has been for government agencies. In addition to the hazards of navigation and weather in arctic waters, there is practically no back haul to help meet the high cost of operation in this area.

The Arctic Islands, despite their remoteness, are comparatively well served by air transportation. Nordair operates a regular weekly service from Montreal to Frobisher Bay and Resolute Bay with two additional flights to Frobisher Bay. Austin Airways in northern Quebec has a monthly flight to Cape Dorset. Charter services are available at Frobisher Bay and Resolute Bay to the outlying settlements scattered throughout the islands.

TELECOMMUNICATIONS AND BROADCASTING

Radio and telephone communications in the North are improving even more rapidly than the transportation facilities. The basic pattern follows that of transportation in the North although there is more overlap from one main access route to another because of the greater flexibility of radio.

In the Mackenzie Valley, the major recent achievement has been the opening of the Canadian National Telecommunications landline along the Mackenzie River to Norman Wells in May 1965. It is expected to be completed to Inuvik by the fall of 1966, and will, for the first time, provide modern up-to-date local and long distance telephone service, telegraph and private line service as well as radio program circuits to this remote area. Pending completion of the system, Inuvik, Fort Good Hope, Aklavik, Fort McPherson and Arctic Red River are connected to the present landline system by radio. It is planned to extend this service during 1965 to Reindeer Depot, Tuktoyaktuk, Coppermine, Fort Franklin and Jean Marie River. The Canadian National Telecommunications in conjunction with the Department of Transport is currently planning to provide service to 15 additional settlements along the Arctic Coast and in the Mackenzie River.

The same company operates two other systems: the Yellowknife landline from Hay River to Yellowknife and Fort Smith (Pine Point and Fort Resolution are connected to this system by VHF radio) and the tropospheric scatter radio system between Hay River and Cambridge Bay via Snare River and Port Radium. There are 21 telephone exchanges in the Mackenzie Valley, a number of them automatic, and a total of 11 radio base stations provide service for mobile exploration and survey parties.

Several government and private radio networks are operating in the North. The most extensive of these is operated by the Department of Transport for its aeronautical and meteorological services. Practically all of the Department's public message handling facilities are now being closed out in favour of the new commercial services. In the Mackenzie District, the Department of Northern Affairs maintains stations for administration and forest and game protection. The Royal Canadian Mounted Police have 13 radio stations, the Hudson's Bay Company, 18; and the missions also have their own system.

On the west coast of Hudson Bay, Churchill, Manitoba is connected to the provincial telephone system, but there are no local telephone exchange services at present in the adjacent part of the Territories. The outlying communities are served by the radio facilities of various agencies; the Department of Transport, the Hudson's Bay Company, the missions, and the Department of Northern Affairs.

In conjunction with the Federal Government, the Bell Telephone Company of Canada plans to provide local and long distance public telephone service as well as private service for government departments during the summer of 1965 at Baker Lake, Coral Harbour, Chesterfield Inlet, Eskimo Point, Rankin Inlet and Whale Cove.

In the eastern Arctic, the Bell Telephone operates five local exchanges with a total of 571 telephones, the most northerly exchange being at Resolute Bay. New exchanges at Pond Inlet and Arctic Bay were added early in 1965, and it is planned that four more communities in the Baffin Island area will be connected to the Bell network in the near future. The main toll centre is located at Frobisher Bay and service into the Trans-Canada Telephone System at Goose Bay, Labrador, is provided by Bell Telephone over circuits leased under special arrangements in the military network.

As in the rest of the North, the Hudson's Bay Company and the Royal Canadian Mounted Police maintain their own radio facilities. The Department of Transport operates its radio aids to navigation and meteorological observation services, and in the absence of commercial operators, provides telegraph message service for local residents.

Continued expansion of commercial communications in the Arctic will be dependent upon general economic growth and development. The use of multi-channel service of much greater reliability is a likely development. As more reliable commercial systems become available, Federal Government departments and others who now operate their own limited private point-to-point radio service will no doubt transfer their operations to the commercial systems.

Radio broadcasting plays an important part in northern communications and the prime agency in this field is the Canadian Broadcasting Corporation's Northern Service. It was established in 1958 to provide radio coverage for the approximately 75,000 people, of whom approximately 12,000 are Eskimos and 17,000 are Indians, in the two territories and the northern parts of the provinces. The Corporation's objective is to provide short - and medium-wave radio service to meet the special needs of all the northern people. The "Northern Messenger" service which transmits personal messages from people in southern Canada, particularly hospitalized Eskimos or Indians, to friends in the North is a unique and popular adaption of the Corporation's facilities.

Most of the Mackenzie District is served by the medium-wave service based on a regional programming station at Yellowknife which is connected to the national radio network. Unmanned automatic low-power relay transmitter stations at Hay River and Fort Smith receive the programs from Yellowknife. This service is being extended to Fort Simpson in the summer of 1965 and Pine Point the year after. The completion of the Canadian National Telecommunications' landline down the Mackenzie to Inuvik will enable more communities to be brought into the Mackenzie Network.

Inuvik and Frobisher Bay have local stations which receive program material on tape from the south and from shortwave broadcasts, in addition to some programs of local origin. Churchill has a local station operating on the same basis that provides service into the Keewatin District as far as Eskimo Point and Rankin Inlet.

About 35 per cent of the northern population, almost all people in the eastern Arctic, now receive only the shortwave service which is broadcast from Sackville, New Brunswick in English, French and Eskimo. At present, service is only eight and a half hours a day, but it is hoped to expand this to 18 hours' broadcast time each day.

APPENDIX IV

PRIMARY FOREST PRODUCTION
NORTHWEST TERRITORIES

Products	1959	1960	1961	1962	1963 p _c
Logs and bolts					
Mft. b.m.....	1,340	4,413	1,891	2,031	2,272
cubic feet.....	268,000	882,600	378,200	406,200	454,400
value \$	53,935	114,738	37,820	50,775	56,800
Fuelwood					
cords.....	2,594	1,493	2,114	3,722	3,944
cubic feet.....	207,520	119,440	169,120	297,760	315,520
value \$	37,613	14,930	21,140	29,776	31,552
Poles and Piling					
number.....	—	27,129	5,578	11,473	50,134
cubic feet	—	406,935	83,670	172,095	752,010
value \$	—	223,814	27,890	68,838	300,804
Totals					
cubic feet.....	475,520	1,408,975	630,990	876,055	1,521,930
value \$	91,548	353,482	86,850	149,389	389,156

p. Preliminary estimates

Note: Data on quantities and values were obtained in total from the Dominion Bureau of Statistics Publications *Logging*. The breakdown of the data by Territory was based on reports which are submitted to the Department of Forestry by Territorial Authorities.

APPENDIX V

**VALUE OF MINERAL PRODUCTION
NORTHWEST TERRITORIES**

	1952	1953	1954	1955	1956	1957
Metallics						
—Gold	8,484,601	9,979,356	10,512,741	11,092,001	12,149,447	11,407,604
—Silver	49,492	53,424	49,152	51,565	62,701	60,376
—Copper	1,969	—	—	—	—	95,672
—Nickel	—	—	—	—	—	734,157
—Pitchblende	*	*	15,486,157	13,232,079	9,176,076	8,801,769
—Tantalum	—	—	2,696	9,760	—	—
—Columbium	—	—	2,294	1,032	—	—
—Cobalt	—	*	*	16,119	—	—
—Lead	4,443	—	—	—	—	—
—Tungsten	15,472	—	—	—	—	—
Sub-Total	8,555,977	10,032,780	26,053,040	24,402,556	21,388,224	21,099,578
Non-metallics						
—Lithia	—	—	6,300	3,272	—	—
Fuels						
—Natural Gas	9,698	10,199	9,700	6,213	6,938	6,446
—Petroleum, crude...	379,160	257,251	344,960	1,185,780	762,773	294,591
Sub-Total	388,858	267,450	354,660	1,191,993	769,711	301,037
TOTAL MINERALS....	8,944,835	10,300,230	26,414,000	25,597,821	22,157,935	21,400,615

*Not Available For Publication

Source: *General Review of the Mining Industry*, Dominion Bureau of Statistics.

APPENDIX V (Cont'd.)

	1958	1959	1960	1961	1962	1963
Metallics						
-Gold.....	11,683,615	13,626,802	14,194,631	14,449,028	14,974,924	14,609,250
-Silver.....	63,179	61,937	70,659	73,419	84,814	107,216
-Copper	220,748	292,157	315,016	270,440	194,928	10,281
-Nickel	2,648,538	2,689,239	2,669,645	2,604,789	1,503,837	
-Pitchblende	9,572,847	8,155,729	9,231,698	-	-	
-Tantalum.....	-	-	-	-	-	
-Columbium	-	-	-	-	-	
-Cobalt	-	-	-	-	-	
-Lead	-	-	-	-	-	
-Tungsten.....	-	-	-	-	-	
Sub-Total.....	24,188,927	24,825,864	26,481,649	17,397,676	16,758,503	14,726,747
Non-metallics						
-Lithia	-	-	-	-	-	
Fuels						
-Natural Gas	8,197	22,718	12,219	17,326	23,518	21,330
-Petroleum, crude ..	698,266	1,025,914	641,219	730,160	755,045	633,754
Sub-Total.....	706,463	1,048,632	653,438	747,486	778,563	655,084
TOTAL MINERALS ...	24,895,390	25,874,496	27,135,087	18,145,162	17,537,066	15,381,831

APPENDIX VI

PRINCIPAL STATISTICS OF THE MINING INDUSTRY NORTHWEST TERRITORIES

	Establishments*	Employees	Salaries and Wages	Cost of Fuel and Electricity	Cost of Process Supplies, Ores and Containers	Net Value Added By Processing
1952.....	37	959	4,106,791	860,602	1,144,090	6,736,867**
1953.....	41	791	3,686,321	767,078	769,909	8,675,331**
1954.....	40	837	4,026,418	730,497	961,253	24,565,743
1955.....	49	1,028	5,133,979	1,018,343	1,757,266	21,943,403
1956.....	81	1,111	5,679,522	1,386,024	2,346,839	18,244,965
1957.....	80	1,255	7,239,682	1,536,319	1,709,536	18,311,041
1958.....	80	1,203	6,862,291	1,688,916	2,337,278	19,490,095
1959.....	86	1,180	6,717,354	1,732,576	2,513,256	20,493,199
1960.....	16	1,056	6,344,215	1,479,700	1,953,648	22,445,908
1961.....	14	976	5,708,328	1,363,110	1,241,586	14,828,083
1962.....	16	932	5,859,026	1,054,973	1,192,680	13,607,769

* From 1952 to 1959 the establishment figures indicated the number of mines, quarries, pits, etc. After 1959, the establishment figures indicate the smallest unit which is a separate operating entity capable of reporting principal statistical data.

** Excludes data on pitchblende products.

Source: *General Review of the Mining Industry*, Dominion Bureau of Statistics.

APPENDIX VII

COMMERCIAL FISHING NORTHWEST TERRITORIES

Year	No. of Persons Engaged in Primary Operations	Value of Fish Landed \$	Total Value of Products \$
1957.....	530	720,000	1,356,300
1958.....	539	682,000	1,235,200
1959.....	503	703,000	1,146,300
1960.....	360	699,700	1,074,700
1961.....	336	674,800	1,178,600
1962.....	476	859,400	1,230,700
1963.....	453	795,800	1,330,500

Source: *Fisheries Statistics—Alberta and Northwest Territories*, Dominion Bureau of Statistics.

INLAND FISHERIES STATISTICS NORTHWEST TERRITORIES AND SELECTED PROVINCES

	No. employed in Primary Operations	Fish Landings			
		Quantity		Value	
		Thousands of Pounds	Lbs./Man	\$000's	\$/Man
Ontario					
1958	3,224	47,175	14,632	7,271	2,255
1959	3,527	48,984	13,888	4,866	1,380
1960	3,409	47,600	13,963	4,983	1,462
1961	3,059	54,951	17,964	5,746	1,878
1962	2,993	63,780	21,310	5,341	1,784
1963p.	3,271	54,342	16,613	5,504	1,683
Manitoba					
1958	5,682	31,929	5,619	3,540	623
1959	5,312	31,052	5,846	3,757	707
1960	5,289	31,944	6,040	3,867	731
1961	5,018	30,658	6,110	3,174	633
1962	5,614	36,105	6,431	4,229	753
1963p.	5,837	35,758	6,126	4,356	746
Saskatchewan					
1958	1,600	12,600	7,875	1,091	682
1959	1,650	12,550	7,606	1,190	721
1960	1,700	14,530	8,547	1,367	804
1961	1,750	14,515	8,294	1,385	791
1962	1,850	14,999	8,108	1,478	799
1963p.	1,827	14,089	7,712	1,300	712
Alberta					
1958	7,805	11,482	1,471	879	113
1959	6,089	12,664	2,080	1,016	167
1960	5,730	15,856	2,767	1,158	202
1961	5,422	11,317	2,087	883	163
1962	4,563	9,025	1,978	714	156
1963p.	N.Av.	8,509	—	676	—
Northwest Territories					
1958	539	5,894	10,935	682	1,265
1959	503	5,747	11,425	703	1,398
1960	360	5,613	15,592	700	1,944
1961	336	5,676	16,893	675	2,009
1962	476	6,544	13,748	859	1,805
1963p.	453	6,347	14,011	796	1,757

P. Preliminary Data

N.Av. Not Available

Source: *Fisheries Statistics*, Dominion Bureau of Statistics.

APPENDIX IX

WILDLIFE FUR PRODUCTION NORTHWEST TERRITORIES (not including seal skins)

Year	Northwest Territories	
	Value	Percentage of Canada Wild Fur
	\$	
1954-55.....	1,166,919	6.7
1955-56.....	805,558	6.5
1956-57.....	732,789	6.7
1957-58.....	735,491	7.0
1958-59.....	808,154	8.3
1959-60.....	821,975	6.6
1960-61.....	1,319,748	11.3
1961-62.....	888,964	8.6
1962-63.....	846,420	7.0
1963-64p.....	1,163,000	8.9

p. — Preliminary Data

Source: — *Fur Production*, Dominion Bureau of Statistics.

APPENDIX X

SEAL SKINS SOLD TO TRADERS NORTHWEST TERRITORIES

	Number	Value \$	Percent of Value of All Furs	Average Value \$
1961-62.....	10,470	48,689	6	4.65
1962-63	27,045	229,739	23	8.49
1963-64	46,962	691,707	39	14.73

Note: Reports by Dominion Bureau of Statistics cover all fur export tax returns whereas the data for seal skins are only that portion reported by fur traders. A fur export tax return is not required for seal skins.

Source: Compilation of returns from fur traders.

APPENDIX XI

**EXPERIENCED LABOUR FORCE EMPLOYED IN
MANUFACTURING INDUSTRIES 1961
NORTHWEST TERRITORIES**

Industry Classification	No. of People Employed
Slaughtering and Meat Processors	3
Biscuit Manufacturers	1
Bakeries	8
Fish Products	9
Soft Drink Manufacturers	1
Fur Goods Industry	12
Sawmills	27
Miscellaneous Wood Industries	1
Commercial Printing	1
Printing and Publishers	5
Aluminum Rolling and Casting	1
Boat Builders and Repair	6
Concrete Products	1
Petroleum Refineries	67
Manufacturers of Toilet Preparations	2
Fur Dressing and Dyeing Industry	1
	146

Source: Labour Force Survey, 1961 Census of Canada.

APPENDIX XII

INDEX OF MANUFACTURING ACTIVITY NORTHWEST TERRITORIES

(exclusive of Imperial Oil Limited)

1960 = 100

	Salaries and Wages	Value Added By Manufacture	Value of Factory Shipments
1960	100.0	100.0	100.0
1961	91.1	99.2	101.8
1962	105.3	98.2	105.5
1963	109.8	98.1	100.7

Source: Dominion Bureau of Statistics.

APPENDIX XIII

OIL AND GAS EXPLORATORY EXPENDITURES NORTHWEST TERRITORIES

	Mainland	Arctic Islands	Total
Prior to 1951	4,812,165	—	4,812,165
1951	32,040	—	32,040
1952	156,879	—	156,879
1953	1,553,976	—	1,553,976
1954	1,220,737	—	1,220,737
1955	1,797,521	—	1,797,521
1956	1,826,110	—	1,826,110
1957	2,354,837	—	2,354,837
1958	3,509,621	—	3,509,621
1959	6,012,179	—	6,012,179
1960	9,221,462	466,110	9,687,572
1961	9,502,818	1,631,869	11,134,687
1962	7,571,343	1,840,359	9,411,702
Preliminary 1963	4,922,697	2,334,971	7,257,668
Preliminary 1964	7,543,059	1,130,887	8,673,946

Source: Department of Northern Affairs and National Resources.

**EARNINGS IN CONSTRUCTION 1953-1963
NORTHWEST TERRITORIES**

Salaries and Wages of Insured Employees
(from Reports of the Workmen's
Compensation Board)

	Contractors	Construction	Total
1953	951,289	289,534	1,240,823
1954	457,780	238,488	696,268
1955	568,048	163,446	731,494
1956	308,383	713,703	1,022,086
1957	674,911	474,921	1,149,832
1958	685,351	3,057,205	3,742,556
1959	1,913,912	10,068,930	11,982,842
1960	1,466,503	3,710,604	5,177,107
1961	850,377	1,702,126	2,552,503
1962	527,736	597,279	1,125,015
1963	647,261	2,323,893	2,971,154

**TELEPHONE YELLOW PAGES SUMMARY
DISTRICT OF MACKENZIE, NORTHWEST TERRITORIES**

Automobile	10
Car Rental	1
Communication	13
Construction	11
Finance & Real Estate	7
Mining Companies	8
Fisheries	4
Professional Services	26
Personal Services	10
Accommodation & Visitor Services	20
Entertainment and Sports	5
Retail Trade	46
Wholesale Trade	2
Transportation	42
Taxi	7
Skilled Trades (may also sell retail)	27
Utilities	3
TOTAL	242

Note: Included are only those establishments and businesses maintaining offices and mailing addresses in the District.

Source: Telephone Directory of the District of Mackenzie, Northwest Territories. Canadian National Telecommunications, August 1, 1964.

APPENDIX XVI

DEW LINE EMPLOYMENT AND PAYROLL

	Monthly Average Number Of Workmen	Insured Total Payroll
		\$
1953	13	42,519
1954	288	797,146
1955	1751	11,216,611
1956	4140	32,935,579
1957	1245	5,855,670
1958	1011	8,167,619
1959	1197	9,746,168
1960	1807	13,904,976
1961	1429	10,897,953
1962	1575	11,857,424
1963	1309	10,611,165
1964 estimated	990	8,500,000

Source: Workmen's Compensation Administration annual reports.

APPENDIX XVII

SUMMARY OF ESTIMATED PERSONAL INCOME 1963 NORTHWEST TERRITORIES

	\$
Primary Industries	6,700,000
Secondary and Services Industries	15,000,000
Federal Government Employment ¹	10,000,000
All Other Salaries and Wages ²	1,600,000
Other Income ³	2,100,000
TOTAL	35,400,000

¹ Excludes Crown Corporations

² Includes persons not covered under Workmen's Compensation — i.e., self-employed, income from handicrafts, co-operatives, interest, dividends and net rental incomes, etc.

³ Includes family allowances, old age security pensions, Indian Treaty payments, welfare assistance, etc.

Source: Estimated by the Department of Northern Affairs and National Resources from various sources.

APPENDIX XVIII

**PER CAPITA PERSONAL CASH INCOME FOR NORTHWEST
TERRITORIES AND SELECTED PROVINCES
1963**

Northwest Territories		\$1,439
Indian	\$ 510	
Eskimo	426	
white	2,922	
Newfoundland		1,029
British Columbia		1,967
Canada (average)		1,734

Source: Estimated by the Department of Northern Affairs and National Resources from the National Accounts and Dominion Bureau of Statistics.

APPENDIX XIX

**SUMMARY OF SURVEY OF INDIAN INCOME BY SOURCE 1964
NORTHWEST TERRITORIES**

Source of Income	Income in Dollars	% of Total
Earned Income		
Forestry	35,450	2.1
Fishing	65,250	3.8
Trapping	336,632	19.8
Guiding	46,000	2.7
Clerical Office Workers	14,700	0.9
Skilled Trades	117,853	6.9
Unskilled Casual Workers	362,348	21.2
Fire Fighting	25,100	1.5
Self-employed in other fields	40,000	2.4
Domestic Fishing for Own Use	10,300	0.6
Handicrafts	41,052	2.4
Other Employment	21,700	1.3
Other Income		
Treaty Payments	24,715	1.5
Family Allowances	150,620	8.8
Old Age Pensions	195,560	11.5
Other Pensions	13,140	0.8
Welfare Assistance	84,194	4.9
Unemployment Insurance	2,200	0.1
Income of Band Members not living in Settlement and not Shown Separately	115,200	6.8
Total Income	1,702,014	100.0

Source: Department of Citizenship and Immigration.

**INDIVIDUAL INCOME TAX STATISTICS
YUKON, NORTHWEST TERRITORIES AND SELECTED PROVINCES**

	Taxation Years					
	1957	1958	1959	1960	1961	1962
			<u>YUKON TERRITORY</u>			
Taxable Returns						
Number of Returns	4,126	3,948	4,201	4,795	4,359	4,414
Total Income \$000's	17,231	16,902	18,599	21,248	20,150	20,769
Income per Return \$	4,176	4,281	4,427	4,431	4,623	4,705
Total Tax Payable \$000's	1,855	1,668	1,935	2,358	2,191	2,315
Average Tax Payable per Return .	450	422	461	492	503	524
All Returns						
Total Income \$000's	18,077	17,582	19,495	22,327	21,233	21,917
			<u>NORTHWEST TERRITORIES</u>			
Taxable Returns						
Number of Returns	2,574	2,906	3,067	3,663	4,138	3,808
Total Income \$000's	10,749	12,833	13,992	17,190	20,951	18,749
Income per Return \$	4,176	4,416	4,562	4,693	5,063	4,924
Total Tax Payable \$000's	1,127	1,264	1,434	1,860	2,233	2,011
Average Tax Payable per Return \$	438	435	468	508	540	528
All Returns						
Total Income \$000's	11,484	14,071	15,057	17,869	22,126	20,371

APPENDIX XX (Cont'd.)

	Taxation Years					
	1957	1958	1959	1960	1961	1962
			<u>BRITISH COLUMBIA</u>			
Taxable Returns						
Number of Returns	458,756	444,412	459,295	464,651	465,871	489,825
Total Income \$000's	1,827,447	1,854,064	1,954,575	2,048,304	2,101,745	2,266,229
Income per Return \$	3,983	4,172	4,256	4,408	4,511	4,627
Total Tax Payable \$000's	175,266	164,338	186,480	205,486	211,528	229,695
Average Tax Payable per Return \$	382	370	406	442	454	469
All Returns						
Total Income \$000's	1,963,489	2,006,572	2,107,577	2,201,954	2,254,793	2,420,095
			<u>NEWFOUNDLAND</u>			
Taxable Returns						
Number of Returns	48,771	45,722	47,780	52,134	54,693	56,722
Total Income \$000's	177,499	169,260	183,779	204,521	222,482	230,642
Income per Return \$	3,639	3,702	3,846	3,923	4,068	4,066
Total Tax Payable \$000's	13,878	12,110	14,371	17,050	18,454	19,344
Average Tax Payable per Return \$	285	265	301	327	337	341
All Returns						
Total Income \$000's	244,110	222,410	238,493	262,011	276,880	293,963

Source: Taxation Statistics, Department of National Revenue.

**DISTRIBUTION OF TAXABLE CORPORATE INCOME BY INDUSTRIAL DIVISIONS
YUKON, NORTHWEST TERRITORIES AND SELECTED PROVINCES**

(in millions of dollars)

	1957	1958	1959	1960	1961	1962
			<u>YUKON TERRITORY</u>			
Agriculture, Forestry & Fishing.....	—	—	—	—	0.4 }	0.2
Mining, Quarrying & Oil Wells	—	—	1.1	2.0		
Manufacturing	0.1	—	0.1	1.8	—	—
Construction	0.3	1.0	0.2	0.2	0.1	—
Transportation, Communication and Storage	0.3	0.1	0.2	0.4	0.9 }	0.5
Public Utilities	0.2	0.3	0.2	0.3		
Wholesale and Retail Trade	0.3	0.2	0.3	0.4	0.1	0.2
Finance	—	—	0.1	0.2	0.3	0.1
Services	0.2	—	0.1	0.1	0.2	0.2
Total	1.4	1.6	2.3	5.4	2.0	1.2
			<u>NORTHWEST TERRITORIES</u>			
Agriculture, Forestry & Fishing.....	—	—	—	—	1.5 }	0.3
Mining, Quarrying and Oil Wells	0.1	1.0	0.4	0.4		
Manufacturing	1.0	1.9	2.0	1.1	0.9	0.8
Construction	0.6	0.8	2.4	1.6	0.5	1.4
Transportation, Communication & Storage	0.7	0.9	0.2	1.1	0.9 }	0.2
Public Utilities	—	—	—	—		
Wholesale and Retail Trade	0.9	1.0	0.3	0.3	1.5	0.2
Finance	—	0.2	0.3	0.1	—	0.1
Services	—	0.1	0.2	0.1	—	—
Total	3.3	5.9	5.8	4.7	5.3	3.0

APPENDIX XXI (Cont.)

	1957	1958	1959	1960	1961	1962
			<u>BRITISH COLUMBIA</u>			
Agriculture, Forestry & Fishing.....	4.3	3.8	4.8	6.2)	28.7 }	37.8
Mining, Quarrying & Oil Wells	10.7	13.1	14.3	19.4)		
Manufacturing	119.0	106.7	155.4	138.2		
Construction.....	25.0	22.9	16.2	10.2	149.9	182.4
Transportation, Communication & Storage	28.2	18.5	28.8	35.0)	9.6	10.0
Public Utilities.....	2.3	1.9	2.3	2.2)	40.4 }	45.2
Wholesale and Retail Trade	60.9	52.9	57.5	51.4		
Finance.....	31.1	36.5	39.2	43.9	48.6	56.1
Services	12.6	13.4	13.4	13.6	47.6	42.1
Total.....	294.1	269.7	331.9	320.1	14.1	15.2
			<u>NEWFOUNDLAND</u>			
Agriculture, Forestry & Fishing.....	0.1	—	0.1	0.1)	3.1 }	3.5
Mining, Quarrying & Oil Wells.....	2.2	1.0	1.4	1.9)		
Manufacturing.....	13.1	12.1	12.6	16.0	19.1	18.8
Construction.....	1.5	1.8	2.7	3.5	3.2	3.0
Transportation, Communication & Storage	1.7	5.5	1.7	10.5)	10.7 }	14.3
Public Utilities.....	2.4	2.2	2.1	2.5)		
Wholesale and Retail Trade.....	5.4	5.7	7.0	7.8	6.9	7.6
Finance.....	4.0	3.9	3.7	5.3	5.2	4.5
Services	0.4	0.3	1.9	0.5	0.1	0.3
Total.....	30.8	32.5	33.2	48.1	48.3	52.0

Source: Taxation Statistics, Department of National Revenue.

COUNCILS OF THE NORTHWEST TERRITORIES 1951-1965

Council of the Northwest Territories, 1951 - 1954

Commissioner

(H.A. Young	Ottawa	Deputy Minister, Department of Resources and Development.
* (
(R.G. Robertson	Ottawa	Deputy Minister, Department of Northern Affairs and National Resources.
(November 1953)		

Members of Council

<u>Appointed</u>		
F.J.G. Cunningham	Ottawa	Department of Northern Affairs and National Resources.
(Deputy Commissioner)		
L.C. Audette	Ottawa	Chairman, Canadian Maritime Commission.
(W.I. Clements	Ottawa	Air Commodore, O.B.E., Royal Canadian Air Force.
* (
(C.M. Drury	Ottawa	Deputy Minister, Department of National Defence.
L.H. Nicholson	Ottawa	Commissioner, Royal Canadian Mounted Police.
(D.M. MacKay		
(J.H. Boucher	Ottawa	Department of Citizenship and Immigration.
<u>Elected</u>		
M.A. Hardie	Yellowknife	Mackenzie North
J. Brodie	Fort Smith	Mackenzie South
F. Carmichael	Aklavik	Mackenzie West

Council of the Northwest Territories, 1954 - 1957

Commissioner

R.G. Robertson	Ottawa	Deputy Minister, Department of Northern Affairs and National Resources.
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Members of Council

<u>Appointed</u>		
(F.J.G. Cunningham	Ottawa	Department of Northern Affairs and National Resources.
* ((Deputy Commissioner)		
(W.G. Brown	Ottawa	Department of Northern Affairs and National Resources.
(Deputy Commissioner)		
L.H. Nicholson	Ottawa	Commissioner, Royal Canadian Mounted Police.
C.M. Drury	Ottawa	Deputy Minister, Department of National Defence.
L.C. Audette	Ottawa	Chairman, Canadian Maritime Commission.
J. Boucher	Ottawa	Department of Citizenship and Immigration.

*Designates change of incumbent during life of a particular Council

Elected

F. Carmichael	Aklavik	Mackenzie Delta
R. Porritt	Hay River	Mackenzie South
J.W. Goodall	Fort Simpson	Mackenzie River
J. Parker	Yellowknife	Mackenzie North

Council of the Northwest Territories, 1957 – 1960

Commissioner

R.G. Robertson	Ottawa	Deputy Minister, Department of Northern Affairs and National Resources.
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Members of Council

Appointed

W.G. Brown (Deputy Commissioner)	Ottawa	Department of Northern Affairs and National Resources.
H.M. Jones	Ottawa	Department of Citizenship and Immigration.
C.M. Drury	Ottawa	Deputy Minister, Department of National Defence.
L.H. Nicholson	Ottawa	Commissioner, Royal Canadian Mounted Police.
L.C. Audette	Ottawa	Chairman, Canadian Maritime Commission.

Elected

K. Lang	Aklavik	Mackenzie Delta
(J. Parker	Yellowknife	Mackenzie North
* (E.J. Gall	Yellowknife	Mackenzie North
R. Porritt	Hay River	Mackenzie South
J.W. Goodall	Fort Simpson	Mackenzie River

Council of the Northwest Territories, 1960 – 1963

Commissioner

(R.G. Robertson	Ottawa	Deputy Minister, Department of Northern Affairs and National Resources.
* (
(B.G. Sivertz	Ottawa	Department of Northern Affairs and National Resources.
(July 1963)		

Members of Council

Appointed

W.G. Brown (Deputy Commissioner)	Ottawa	Department of Northern Affairs and National Resources.
H.M. Jones	Ottawa	Department of Citizenship and Immigration.
D.M. Coolican	Ottawa	President, Canadian Bank Note Company.
I.N. Smith	Ottawa	Editor and Vice President, Ottawa Journal.
L.A. Desrochers	Edmonton	Barrister and Solicitor.

Elected

K. Lang	Aklavik	Mackenzie Delta
E.J. Gall	Yellowknife	Mackenzie North
(A.P. Carey	Fort Smith	Mackenzie South
* (P.W. Kaeser	Fort Smith	Mackenzie South
J.W. Goodall	Fort Simpson	Mackenzie River

*Designates change of incumbent during life of a particular Council

Council of the Northwest Territories, 1964 to present

Commissioner

B.G. Sivertz	Ottawa	Department of Northern Affairs and National Resources.
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Members of Council

Appointed

W.G. Brown (Deputy Commissioner, resigned 1965)	Ottawa	Department of Northern Affairs and National Resources.
Dr. F.G. Vallee	Ottawa	Professor, Carleton University.
A/M H.L. Campbell	Ottawa	Air Marshall, C.B.E., LLD., Royal Canadian Air Force (Retired)
S.M. Hodgson	Vancouver	Financial Secretary, Woodworker's Association of America.
R.N. Harvey	Edmonton	Management Consultant.

Elected

P. Baker	Yellowknife	Mackenzie North
J.W. Goodall	Fort Simpson	Mackenzie River
R. Porritt	Hay River	Mackenzie South
L.R. Trimble	Aklavik	Mackenzie Delta

Source: Office of the Commissioner of the Northwest Territories.

APPENDIX XXIII

**DISTRIBUTION OF TERRITORIAL REVENUES AND EXPENDITURES
OPERATING AND CAPITAL VOTES
1962-63 AND 1963-64**

(Amortization and Housing Accounts not Included)

Territorial Revenue

Operating Account	1963-64	Percent of Total	1962-63	Percent of Total
Liquor (net profit)	\$1,211,607	17.23	\$ 835,609	14.34
Taxes and fees under ordinances	738,844	10.51	441,744	7.58
Sundry Revenues	109,504	1.56	107,044	1.84
Total Operating Revenues Collected in N.W.T.	2,059,955	29.30	1,384,397	23.76
Recovery of Liquor Expenditures	1,078,368	15.34	1,119,430	19.20
Recoveries under shared National Programs	421,669	6.00	760,821	13.05
Special Federal Contributions and Grants	3,470,477	49.36	2,564,092	43.99
TOTAL OPERATING REVENUES	7,030,469	100.00	5,828,740	100.00
Capital Account				
Loans from Federal Government	840,000	82.07	1,100,000	94.02
Recoveries of Capital Expenditures	183,541	17.93	70,578	5.98
TOTAL CAPITAL REVENUE	\$1,023,541	100.00	\$1,170,578	100.00

Territorial Expenditures

Education	\$1,488,895	24.71	\$1,391,058	25.27
Health	523,668	8.69	373,289	6.78
Welfare	445,506	7.39	350,024	6.36
Development Services	97,235	1.61	89,956	1.63
Municipal Affairs	194,067	3.22	190,462	3.46
Wildlife Management	80,086	1.33	119,530	2.17
Administration	90,079	1.49	90,683	1.65
Liquor (fully recoverable)	1,078,368	17.90	1,119,430	20.33
Justice (and police)	688,608	11.43	578,116	10.50
Territorial Hospital Insurance Services	1,339,505	22.23	1,202,951	21.85
TOTAL OPERATING EXPENDITURES	6,026,017	100.00	5,505,499	100.00

APPENDIX XXIII (Cont.)

Operating Account	1963-64	Percent of Total	1962-63	Percent of Total
Capital Account				
Education.....	59,365	7.92	369,068	42.57
Health.....	136,247	18.19	83,935	9.68
Development Services	149,795	20.00	96,716	11.16
Municipal Services.....	347,701	46.41	216,458	24.97
Administration.....	964	.13	1,380	.16
Liquor.....	55,039	7.35	99,364	11.46
TOTAL CAPITAL EXPENDITURES.....	\$ 749,111	100.00	\$ 866,921	100.00

Source: from Annual Reports of the Commissioner of the Northwest Territories.

ESTIMATED COST OF SALARIES, HOUSING AND MAINTENANCE NORTHERN ADMINISTRATION BRANCH STAFF, FISCAL YEAR 1963-64. (Arctic Quebec and Yukon not included)

APPENDIX XXIV

	Field				Branch Head-quarters	Total
	Education	Welfare	Industrial	Administration		
Salaries and Wages.....	2,626,203	408,233	128,632	2,546,041	1,524,303	7,233,412
Isolation Allowances	497,782	61,330	35,355	680,549	—	1,275,016
Travel and Removal	236,556	31,536	24,152	254,497	144,672	691,413
Rations.....	230,285	56,863	7,032	201,682	—	495,862
Maintenance of Housing.....	30,267	16,922	3,504	90,310	—	141,003
Total.....	3,621,093	574,884	198,675	3,773,079	1,668,975	9,836,706
Less Recoveries from						
Northwest Territories						
Government.....	1,202,000			32,800		1,234,800
	2,419,093	574,884	198,675	3,740,279	1,668,975	8,601,906

Source: Department of Northern Affairs and National Resources.

**MUNICIPAL DEVELOPMENT IN THE NORTHWEST TERRITORIES
EFFECTIVE DATES**

Settlement	Development Area	**Administrative District	Local Improvement District	**Municipal District	Village	Town
*Aklavik	June 28, 1957					
Enterprise	Sept. 28, 1960					
Fort Smith			Nov. 15, 1954		April 1, 1964	
Fort Simpson . . .			Nov. 15, 1954			
Frobisher Bay . .	Feb. 3, 1959					
Hay River		April 21, 1949		June 25, 1953		July 19, 1963
Inuvik	Oct. 9, 1959					
Norman Wells . .	Mar. 19, 1963					
Pine Point	Dec. 12, 1963					
Yellowknife		Oct. 1, 1939		June 25, 1953		July 19, 1963

*Development area status for Aklavik ended October 9, 1958.

**The Administrative District and Municipal District designations are no longer in use.

Source: Department of Northern Affairs and National Resources.

MUNICIPAL REVENUES AND ASSESSMENTS

(A) Sources of Revenue

		Per Cent of Revenue		Per Cent of Revenue		Per Cent of Revenue
Yellowknife (Town)	1962		1963		1964	
Real Property Tax Levy.....	\$ 71,292		\$ 74,788		\$ 120,620	
Business Tax Levy.....	20,765		20,169		32,045	
Poll Tax.....	5,815		5,850		5,900	
Licences and Permits.....	5,161		6,014		6,300	
Miscellaneous	8,670		8,331		8,500	
Total Local Revenues	\$ 111,703	36.5%	\$ 115,152	38.5%	\$ 173,365	47.3%
Territorial Grants						
Assessment Grant.....	\$ 71,849		\$ 73,426		\$ 75,332	
Shared-Cost Grants.....	50,772		23,929		18,443	
Total Territorial Grants.....	\$ 122,621	40.25%	\$ 97,355	32.7%	\$ 93,775	25.6%
Federal Grant-in-Lieu.....	\$ 70,730	23.25%	\$ 85,900	28.8%	\$ 99,338	27.1%
Total Government Grants.....		63.5%		61.5%		52.7%
Total Revenues.....	\$ 305,054		\$ 298,407		\$ 366,478	
Hay River (Town)	1962		1963		1964	
Real Property Tax Levy.....	\$ 30,273		\$ 36,141		\$ 36,207	
Business Tax Levy.....	5,645		5,815		6,627	
Poll Tax.....	850		1,100		1,697	
Licences and Permits.....	3,998		2,907		5,755	
Miscellaneous	4,342		6,378		5,918	
Total Local Revenues	\$ 45,108	42.8%	\$ 52,341	41.3%	\$ 56,204	44.9%
Territorial Grants						
Assessment Grant.....	\$ 17,234		\$ 19,404		\$ 23,507	
Shared-Cost Grants.....	28,507		40,402		22,598	
Total Territorial Grants.....	\$ 45,741	43.4%	\$ 59,806	47.2%	\$ 46,105	36.8%
Federal Grant-in-Lieu.....	\$ 14,508	13.8%	\$ 14,621	11.5%	\$ 22,730	18.3%
Total Government Grants.....		57.2%		58.7%		55.1%
Total Revenues.....	\$ 105,357		\$ 126,768		\$ 125,039	
Fort Smith (Village)*					1964	
Real Property Tax Levy.....					\$ 11,154	
Licences and Permits.....					83	
Total Local Revenues					\$ 11,237	13.2%

APPENDIX XXVI (Cont.)

	<u>1962</u>	<u>Per Cent of Revenue</u>	<u>1963</u>	<u>Per Cent of Revenue</u>	<u>1964</u>	<u>Per Cent of Revenue</u>
Territorial Grants						
Assessment Grant.....					\$ 31,678	
Shared Cost Grant					8,031	
Total Territorial Grants					\$ 39,709	46.7%
Federal Grant-in-Lieu.....					\$ 33,988	40.1%
Total Government Grants.....						86.8%
Total Revenues.....					\$ 84,934	

(B) Real Property and Business Assessments

Yellowknife (Town)	<u>1962</u>	<u>1963</u>	<u>1964</u>
Taxable Real Property.....	\$4,455,780	\$4,674,220	\$4,824,800
Crown Exempt Real Property..	1,577,700	1,732,880	1,778,050
Other Exempt Real Property ..	2,507,710	2,521,830	2,511,170
Total Real Property Assessment	\$8,541,190	\$8,928,930	\$9,114,020
Business Assessment.....	\$2,595,571	\$2,521,136	\$2,563,630
Hay River (Town)			
Taxable Real Property.....	\$ 946,030	\$1,112,940	\$1,131,480
Crown Exempt Real Property..	487,770	577,940	754,470
Other Exempt Real Property ..	89,910	197,630	196,680
Total Real Property Assessment	\$1,523,710	\$1,888,510	\$2,082,630
Business Assessment.....	\$ 470,450	\$ 484,590	\$ 552,240
Fort Smith (Village)	<u>1962</u>	<u>1963</u>	<u>1964</u>
Taxable Real Property.....	\$ 800,768	\$1,050,606	\$1,115,404
Crown Exempt Real Property..	3,124,144	2,834,890	4,024,630
Other Exempt Real Property ..	291,500	460,830	472,868
Total Real Property Assessment	\$4,216,412	\$4,346,326	\$5,612,902
Fort Simpson (Local Improvement District)*			
Taxable Real Property.....	\$ 208,913	\$ 259,329	\$ 512,695
Crown Exempt Real Property..	1,031,690	1,610,584	1,766,032
Other Exempt Real Property ..	48,056	62,559	60,007
Total Real Property Assessment	\$1,288,659	\$1,932,472	\$2,338,734

* The figures for Fort Smith are for nine months only as the village was incorporated on June 1, 1964.

**Fort Simpson is not an incorporated municipality but it is the only other community where property is assessed. Property taxes are paid to the Territorial Government.

Source: Department of Northern Affairs and National Resources.

